A330
TECHNICAL TRAINING MANUAL
MECHANICAL & AVIONICS COURSE - T1+T2 (LVL 2&3)
(RR Trent 700)
INFORMATION SYSTEMS

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INFORMATION SYSTEMS

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ATIMS LINE MAINTENANCE BRIEFING (2)

ATIMS

GENERAL

The ATIMS complies with the future developments of the communication, navigation, surveillance and Air Traffic Management (ATM) also known as Future Air Navigation System (FANS). It covers the evolution of the way the airspace will be used in the years to come. It is used in different operational environments and is designed and easily configured to the airlines needs. The ATIMS sends data-link communication through:
o VHF Data Link (VDL),
o HF Data Radio (HFDR),
o Satellite Communication (SATCOM).
The exchange of complex data or specific reports between the aircraft and the ground centers:
- Controller Pilot Data Link Communications (voice in backup) for ATM,
- automatic reporting (position, intention) for air traffic surveillance,
- specific airline/aircraft communications (operational control) to improve airline operational costs and flexibility.
Standard AOC functionalities are usually given but airlines can customize these functions and the way the crew can get the acces. On the ground, the different existing networks dispatch the messages. These networks are operated by private companies such as ARINC, SITA and others, which are known as service providers.
The Film presents FANS A and B.

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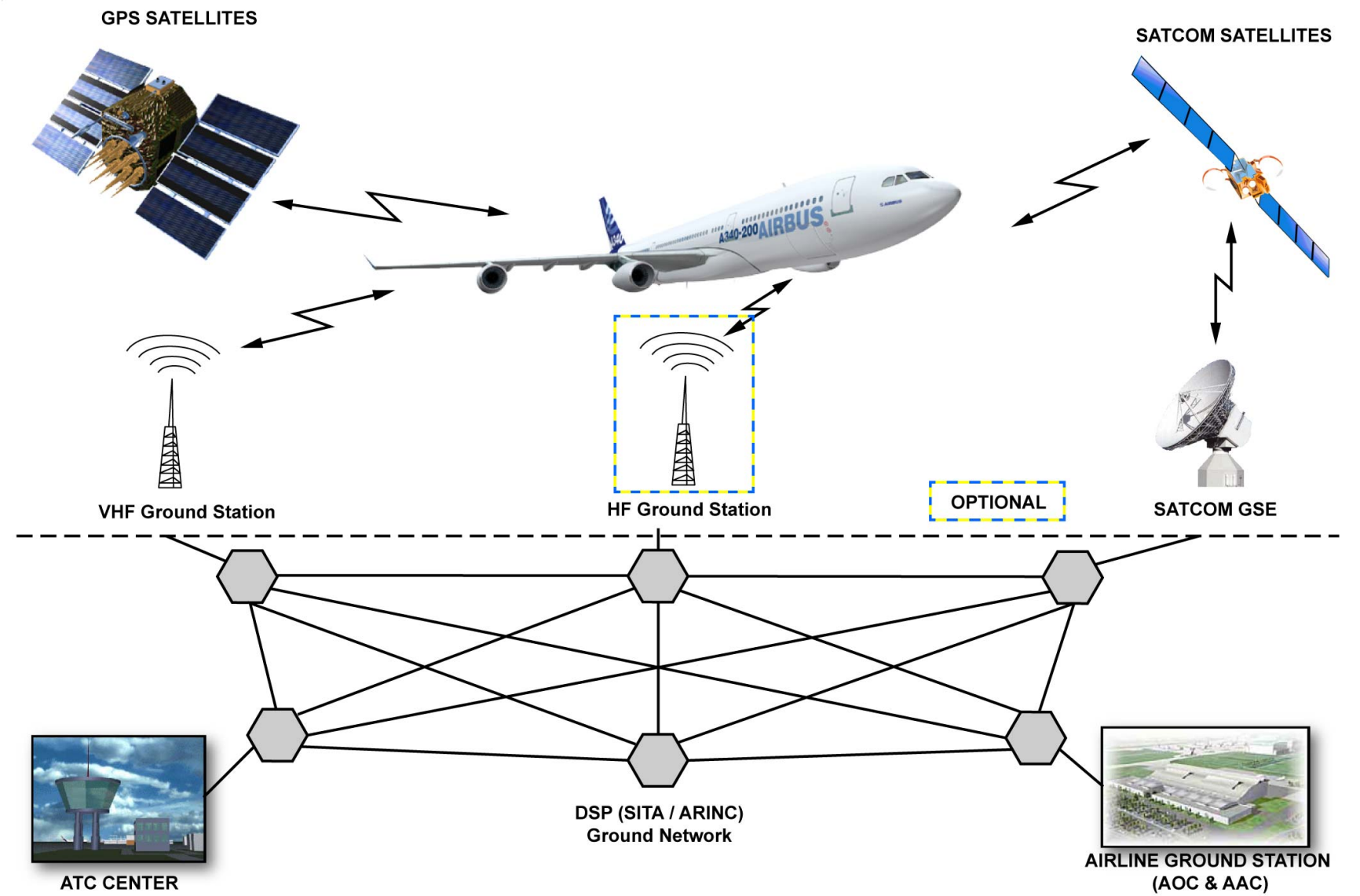

ATIMS - GENERAL

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ATIMS - GENERAL

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ATIMS LINE MAINTENANCE BRIEFING (2)

ATIMS (continued)

AIRCRAFT COMMUNICATION AND NETWORK

The On-board communication Network is made of a central element (ATSU), communication transceivers (VDR,HFDR,SATCOM/SDU), navigation peripheral systems (MMR, ADIRUs, FMS for Aircraft position computation) and terminal equipments (FMS, CMS, DMU, Cabin Terminal).

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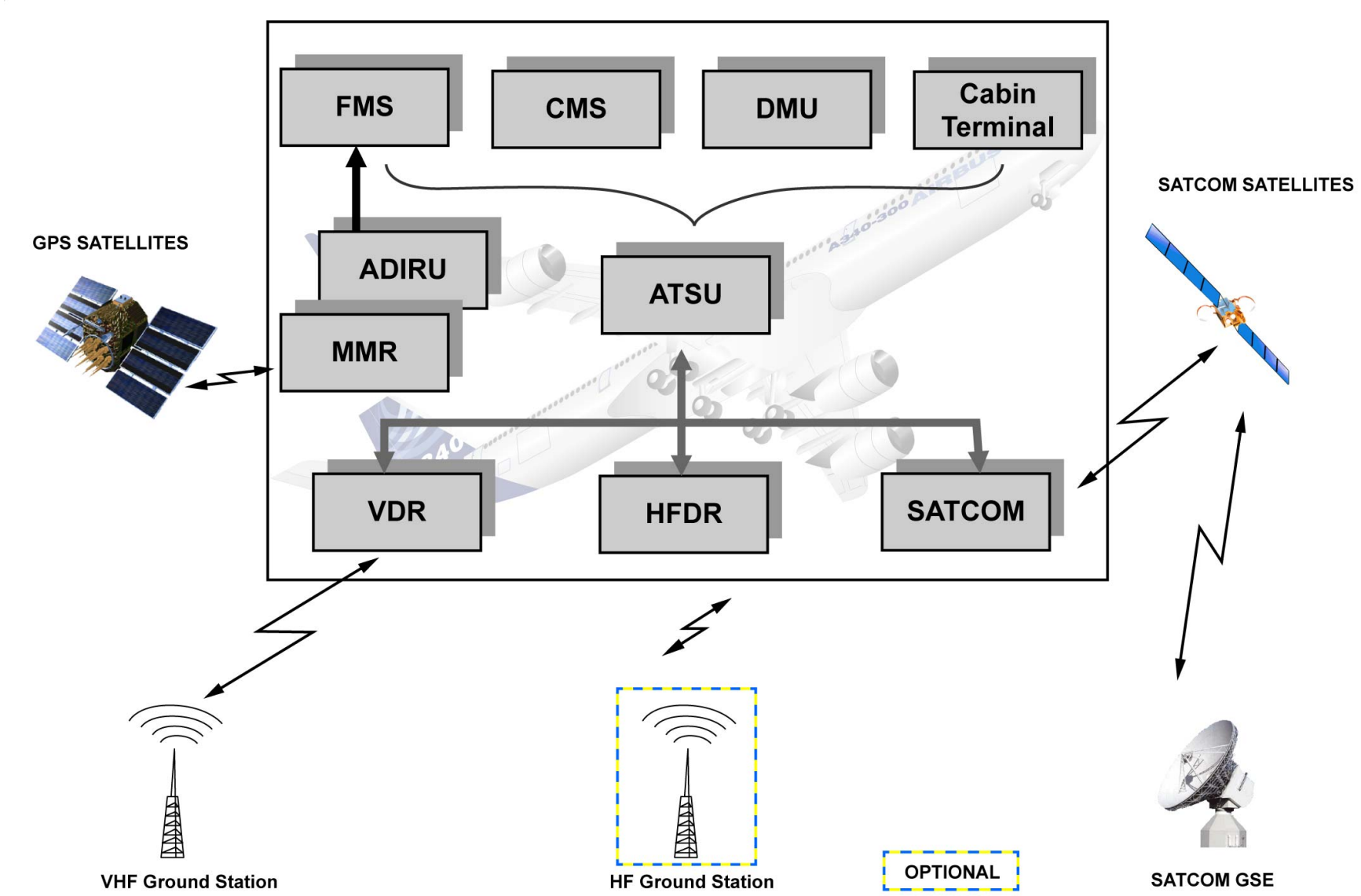

ATIMS - AIRCRAFT COMMUNICATION AND NETWORK

ATIMS LINE MAINTENANCE BRIEFING (2)

ARCHITECTURE

The ATIMS pre-FANS configuration mainly has an Air Traffic Service Unit (ATSU), which is used:
- to manage communications (air/ground data-links),
- to manage applications (on board data routing).

The communication devices include:
- the SATCOM,
- the VDR,
- the HFDR.

The pre-FANS crew interfaces include the ECAM, and the MCDU. For FANS-A and FANS-B equipped aircraft there are:
- two Data Communication Display Units (DCDUs),
- two attention getter P/Bs, marked "ATC MeSsaGe",
- the MCDU "ATC COM" key operative.

The ATSU also manages the communication message exchanges to and from the peripheral computers (on-board routing function).

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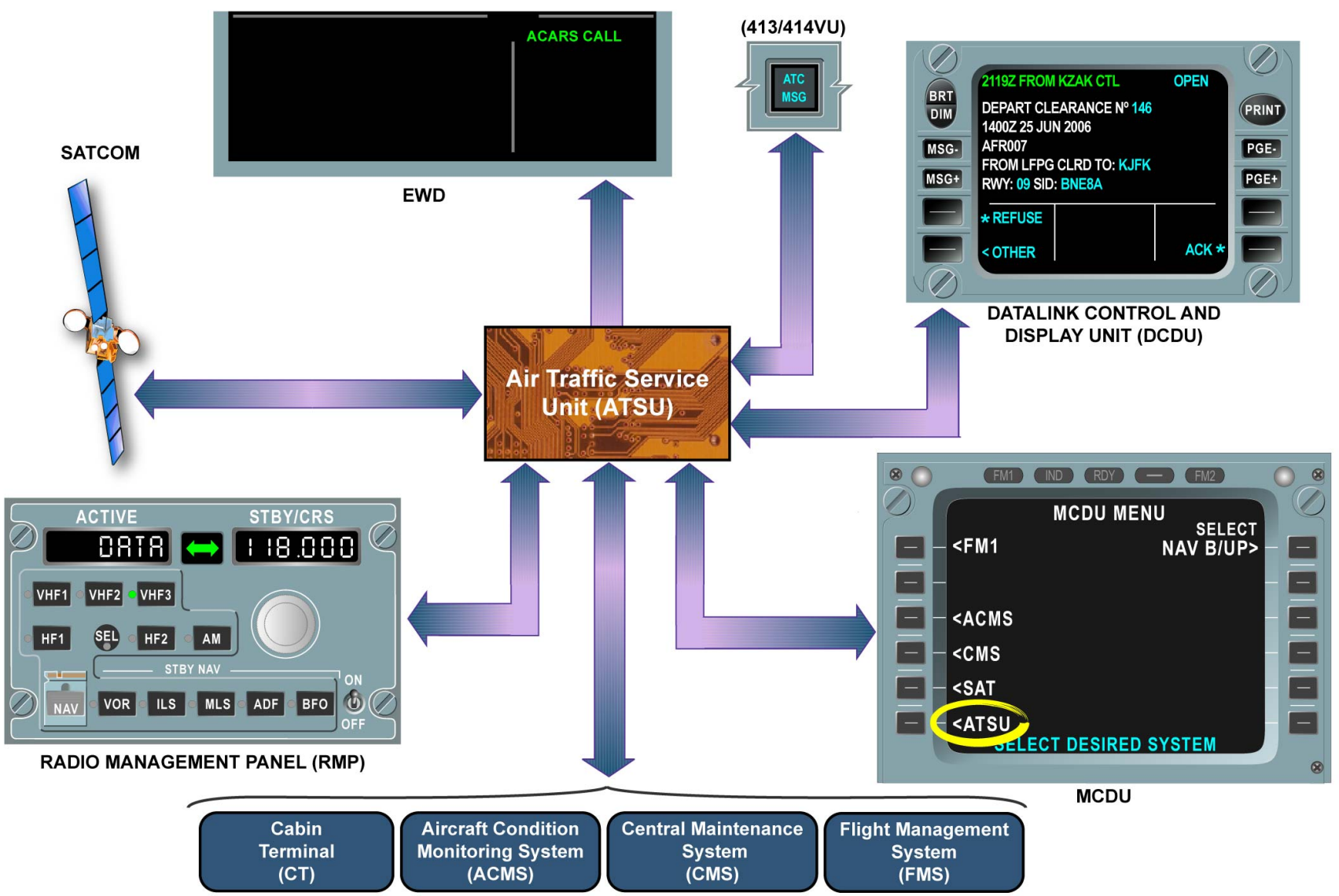

ARCHITECTURE

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ATIMS LINE MAINTENANCE BRIEFING (2)

ATIMS DATA LINK APPLICATIONS

ATSU contains a set of two main applications:
o ATC Operational Program, for Data link with ATC Controllers.(Routing Policy: matches with airworthiness regulation),
o AOC/AAC Operational Program, for Data link with airlines facilities. (Routing Policy: high flexibility for the airline).

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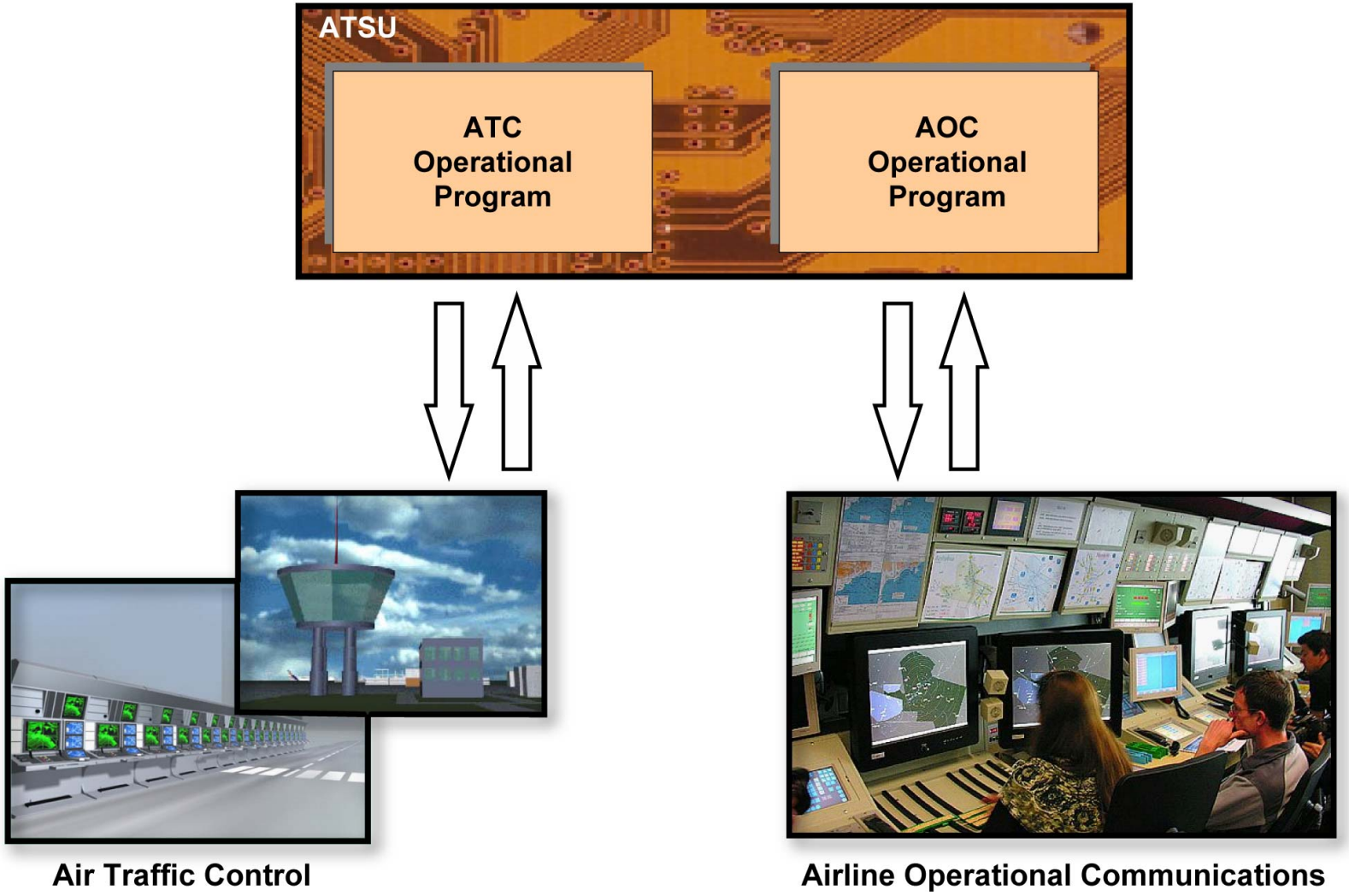

ATIMS DATA LINK APPLICATIONS

ATIMS LINE MAINTENANCE BRIEFING (2)

ATIMS DATA LINK APPLICATIONS (continued)

ATC DATA LINK APPLICATIONS

The ATSU has a set of services (ATC Data-Link Applications) for the flight crew.
These ATC Data-Link Applications are:
o The Controller Pilot Data-Link Communication (CPDLC)
o The Air Traffic service Facility Notification (AFN)
o The Automatic Dependent Surveillance (ADS)
o The Automatic Terminal Information Service (ATIS)
o The Departure Clearance (DL)
o The Oceanic Clearance (OC)

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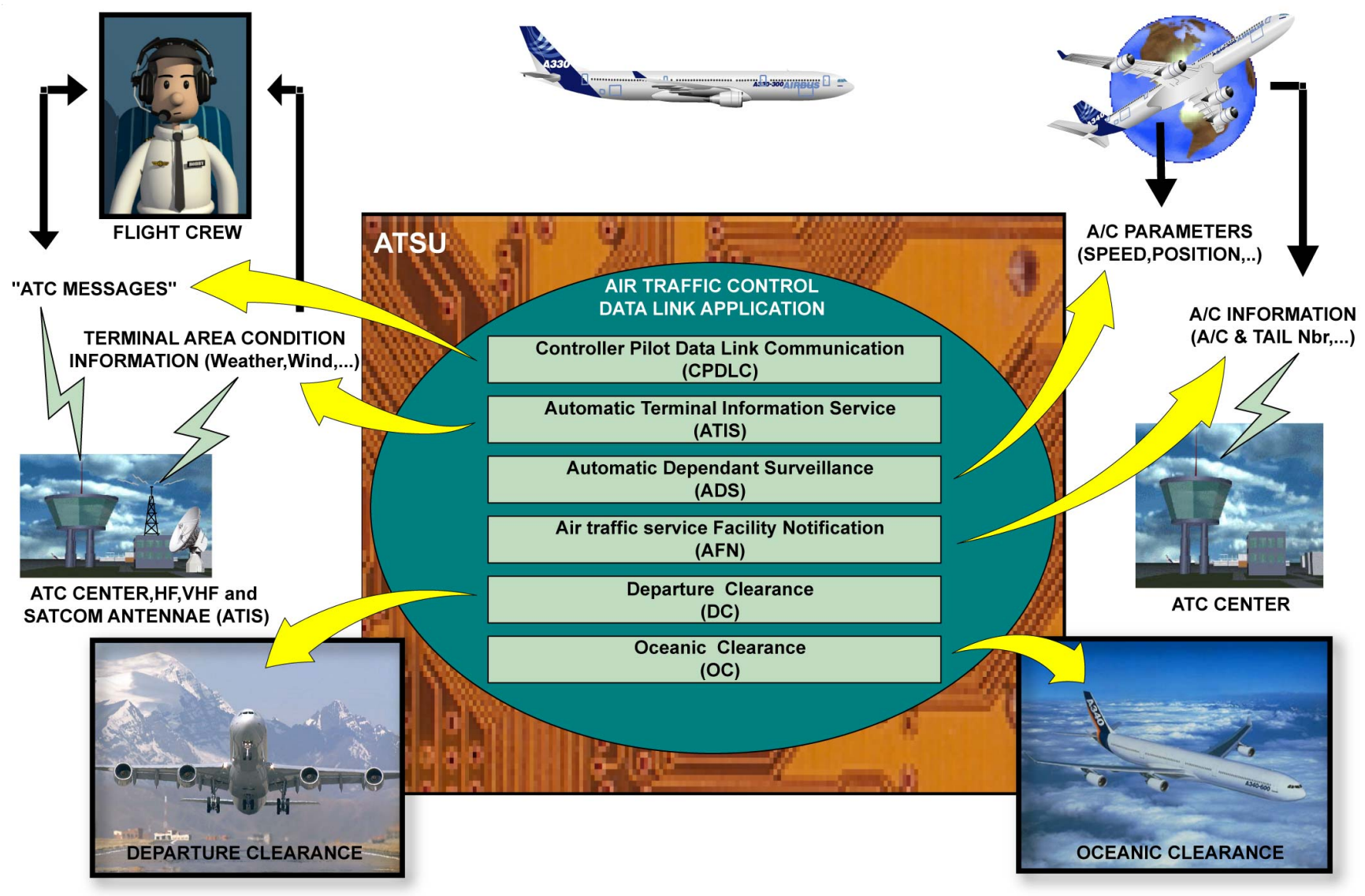

ATIMS DATA LINK APPLICATIONS - ATC DATA LINK APPLICATIONS

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ATIMS LINE MAINTENANCE BRIEFING (2)

ATIMS DATA LINK APPLICATIONS (continued)

ATC APPLICATIONS PACKAGES

Within the ATC Operational Program, the six ATC Data Link Applications are grouped into 2 packages, which can be activated via Software Pin Programming (SPP).

The FANS A applications group is composed of:

- o The Controller Pilot Data-Link Communication (CPDLC)
- o The Air Traffic service Facility Notification (AFN)
- o The Automatic Dependent Surveillance (ADS)

The ARINC 623 applications group is composed of:

- o The Automatic Terminal Information Service (ATIS)
- o The Departure Clearance (DL)
- o The Oceanic Clearance (OC)

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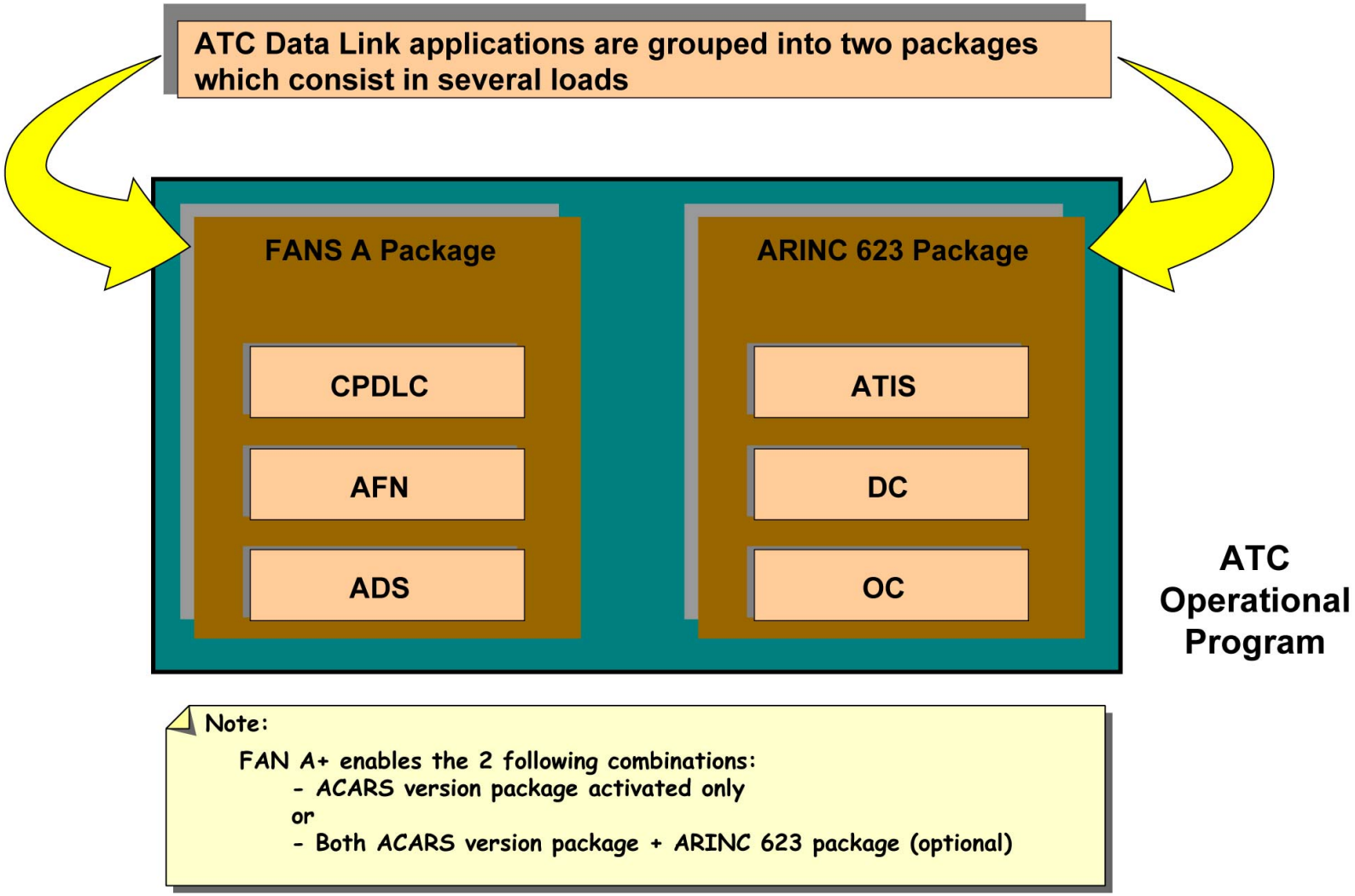

ATIMS DATA LINK APPLICATIONS - ATC APPLICATIONS PACKAGES

ATIMS LINE MAINTENANCE BRIEFING (2)

ATIMS DATA LINK APPLICATIONS (continued)

AOC APPLICATIONS PACKAGES

The AOC (Airline Operational Communication) application is a set of software, which is used for operational data communication between the aircraft and the airline facilities located on the ground. The AOC software is embedded in the ATSU and accessible thought the ATSU MCDU pages. The AOC software can be customized to take into account airlines operations specificity.
The AOC is composed of two disks:
-One disk for the AOC application software (or interpreter)
-One disk for AOC database(s)
One part number identifies each disk. Ground support tools given by AOC vendors allow customization of the AOC database. The AOC application software modification requires in-depth knowledge of the AOC design and is usually done by the vendor.

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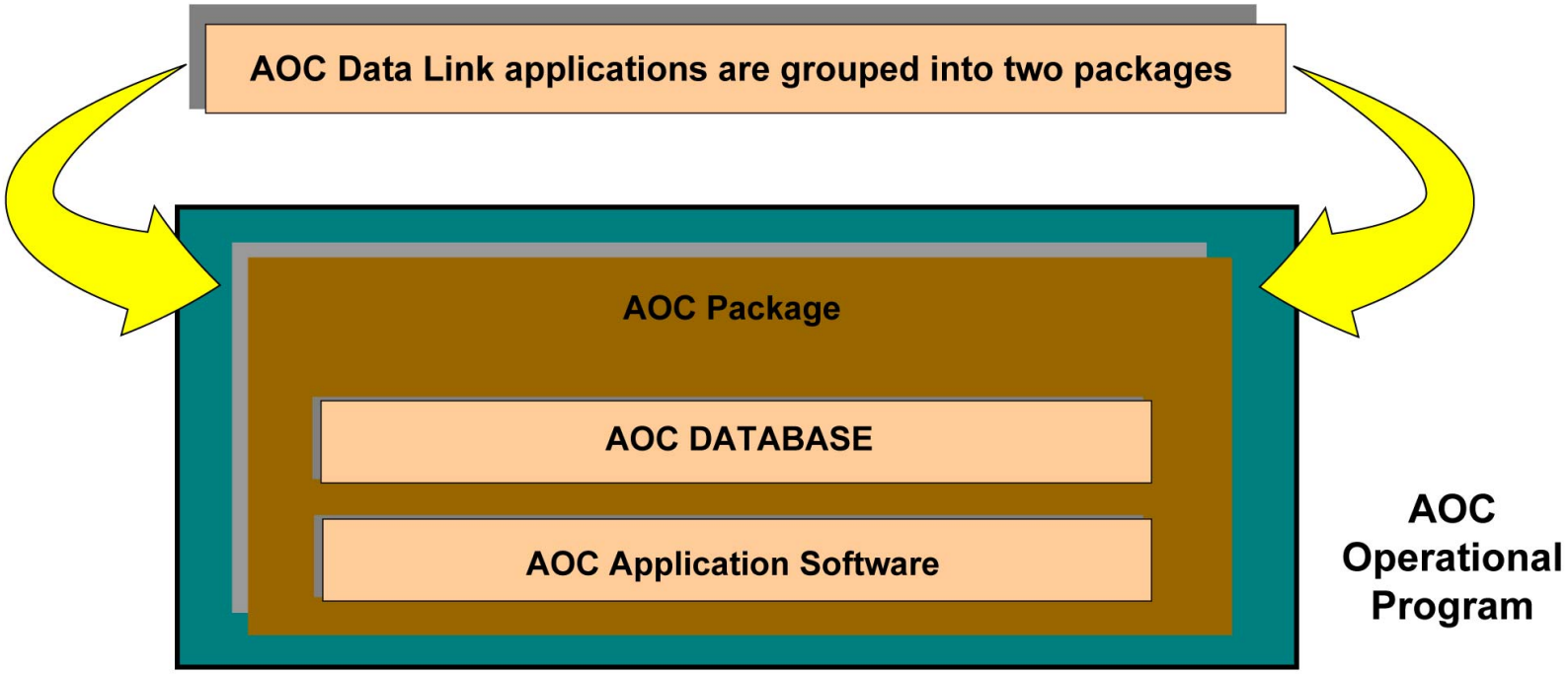

Note:

Airline Operational Communications (AOC) applications:

- Departure/Arrival times reports,
- Delay/Estimated time of arrival,
- Diversion/Return to gate reports,
- Gate assignment, operational messages (free text/preformatted), push back request, weather data, etc..

ATIMS DATA LINK APPLICATIONS - AOC APPLICATIONS PACKAGES

ATIMS LINE MAINTENANCE BRIEFING (2)

DATA LINK SERVICES

The Customization facility allows the A/L to optimize the transmission of downlink messages (cost, performance), by modifying database parameters without impact on the ATIMS Operational Program. It also allows the A/L to define one or several data link routing policies (VHF, HF, SATCOM) for all the downlink messages (except ATC messages), on a worldwide basis or per geographical area.
In a given geographic area, the ATSU shall transmit downlink messages through the current routing policy service which has the:
-Highest preference level,
-If the service is available,
-ATC communication has priority over AOC.
For each geographic zone, it gives the list of all the VHF services available, and their related frequencies.

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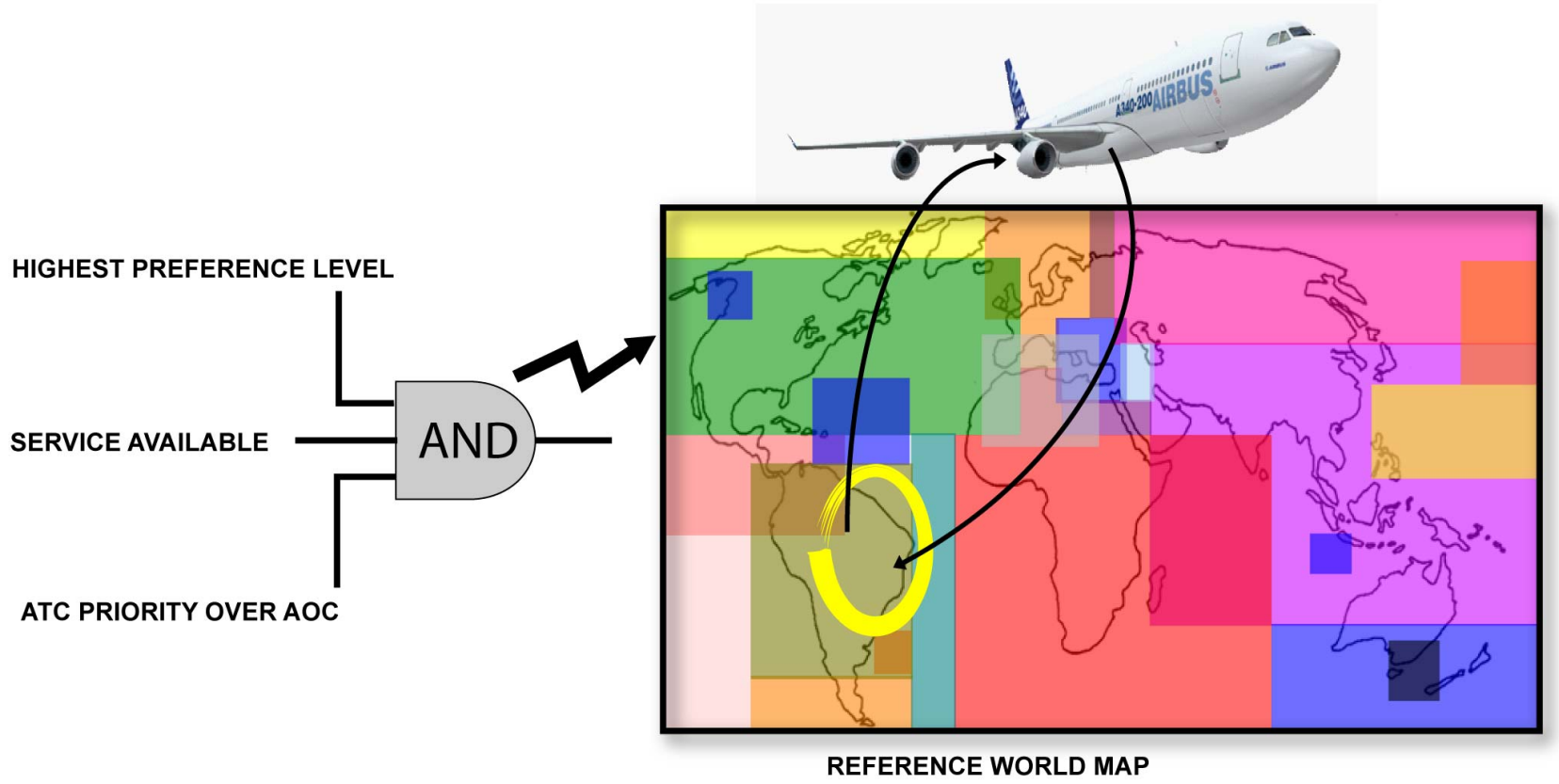

Note:
Example of DSP World Map in south-America:
- In Latin America,ARINC operates on 131.550 MHZ
- SITA operates on 131.725 MHZ

Even though there is an overlapping of those two Data Service Providers, if only ARINC America is selected on the scan-mask,ATSU will communicate with this DSP.

DATA LINK SERVICES

ATIMS LINE MAINTENANCE BRIEFING (2)

COCKPIT INDICATIONS

MCDU MENU

From the MCDU Menu, we get access to FMI (2), CMS, SAT and ATSU Sub-menus. The ATSU Sub-menu gives access to:
-ATC MENU
-AOC MENU
-COM MENU
ATSU Menu is, first, used to give the initialization of the ATSU, through the following steps:
-ATSU
-ATSU DATALINF
-COMM MENU
-COMM INIT

CHECK OF THE A/C REGISTRATION NUMBER (ARN)

After accessing the ATSU DATALINK page from the MCDU MENU page, press the COMM select key to display the COMM MENU page, then validate the task. Follow the procedure, press the COMM INIT select key to get access to the COMM INIT page and then validate the task.
Make sure that the ARN shown below the A/C REGISTR indication is correct.

NOTE: The ARN information is acquired from the Central Maintenance Computer (CMC). The task is complete.

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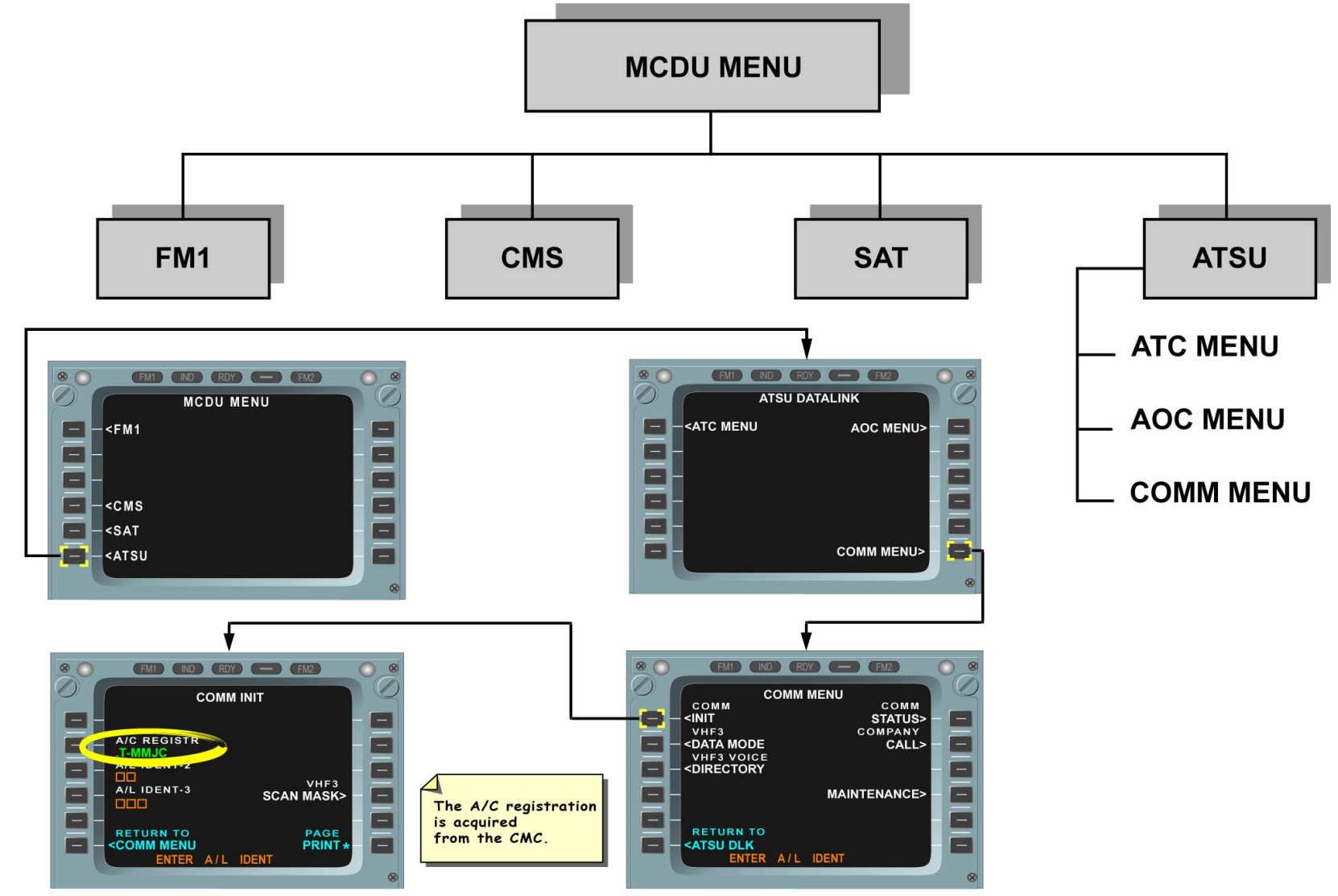

COCKPIT INDICATIONS - MCDU MENU & CHECK OF THE A/C REGISTRATION NUMBER (ARN)

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ATIMS LINE MAINTENANCE BRIEFING (2)

COCKPIT INDICATIONS (continued)

ECAM INDICATIONS

The ATSU STATUS is identified by means of messages displayed on the upper ECAM Display (EWD). The ATSU FAULT is identified by means of messages displayed on the upper ECAM Display (EWD) and on the lower ECAM Display (SD).

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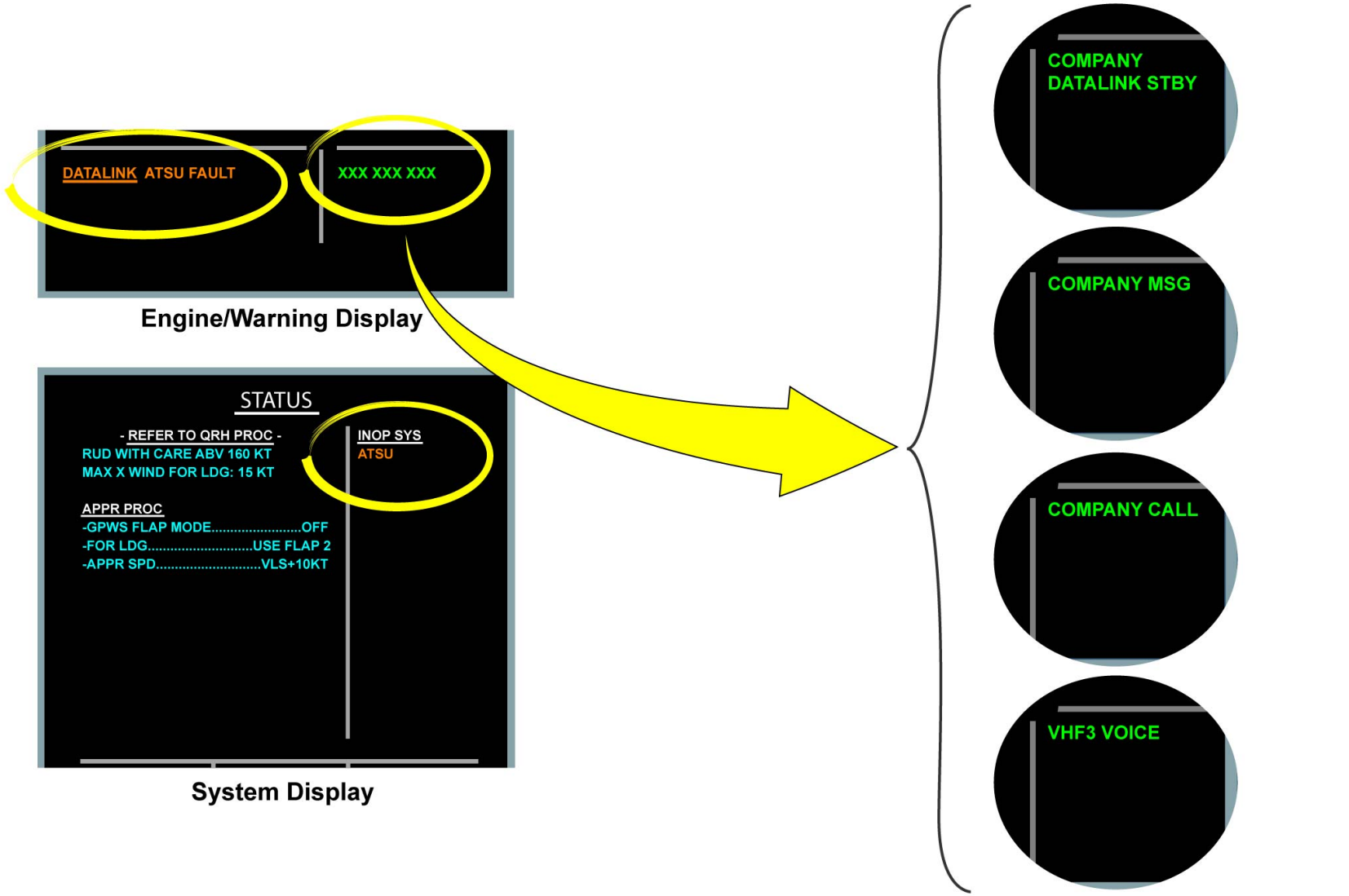

COCKPIT INDICATIONS - ECAM INDICATIONS

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ATIMS D/O (3)

ATSU INTERFACES

The Air Traffic Service Unit (ATSU) is connected by an ARINC 429 type data bus to various peripherals. It is the core unit of the data exchange between the aircraft and the ground station. It ensures the proper routing of information to each end user.

ACARS COMMUNICATION

The ATSU / VHF Data Radio (VDR) 3 / High Frequency Data Radio (HFDR) 1 / Satellite Data Unit (SDU) interface is used for Aircraft Communication Addressing and Reporting System (ACARS) communication. It consists of a data block exchange, and a status transmission. The ATSU/Radio Management Panels (RMP) interface is used for indicating which entity between ATSU and RMP is controlling the VDR 3.

OPERATIONAL COMMUNICATION

The ATSU/Flight Management Guidance and Envelope Computers (FMGECs) interface is used for flight operational data exchanges:
- Airline Operation Control (AOC) hosted application for acquisition of operational data (such as origin/destination airport, flight number, fuel on board, etc),
- Air Traffic Control (ATC) application for navigation and flight management data for Automatic Dependent Surveillance (ADS) function.

The ATSU/MCDUs interface is used for man-machine interfaces. In the AOC application, this allows AOC mode selection, parameter entry (captain name, fuel units, etc), display of AOC specific information (AOC received messages, scratchpad messages, etc), and print command. In the air/ground communication functions, it allows display of router specific information, crew request for router modes of operation and parameter entry. It also gives print command.

MAINTENANCE AND ENGINEERING APPLICATIONS

The ATSU/Flight Warning Computers (FWCs) interface is used for warning information and for AOC application data. The ATSU/System Data Acquisition Concentrators (SDACs)/Display Management Computers (DMCs) interface is used for AOC application data. The ATSU acquires Universal Time Coordinated (UTC) time and date from the clock. The ATSU also receives GPS time from the Multi-Mode Receiver (MMR) 2. The ATSU/Flight Data Interface and Management Unit (FDIMU) interface is used for flight performance in up-link requests and downlink Aircraft Condition Monitoring System (ACMS) reports. The ATSU/Central Maintenance Computer (CMC) interface is used for maintenance purposes: for information concerning ATIMS internal or detected external failures, for up-link requests and down-link CMC reports and for AOC engineering application data. The ATSU sends printable data to the printer. The ATSU/data loader interface is used for loading data. The ATSU software can also be directly uploaded by a high data rate Portable Data Loader (PDL) through a connector located in the avionics compartment.

CABIN DATA EXCHANGE

The ATSU/Cabin Terminals (CT) interfaces are used for cabin administrative data exchanges in up-link requests and downlink reports. The cabin terminals include the Digital Interface Unit (DIU) and the Cabin Passenger Management Unit (CPMU).

AIRCRAFT LGCIU INPUT

The ATSU receives information from the Landing Gear Control and Interface Unit (LGCIU) to determine if the aircraft is on ground or in flight.

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RESET

An ATSU reset switch is installed in the cockpit on the reset control panel to reset the ATSU.

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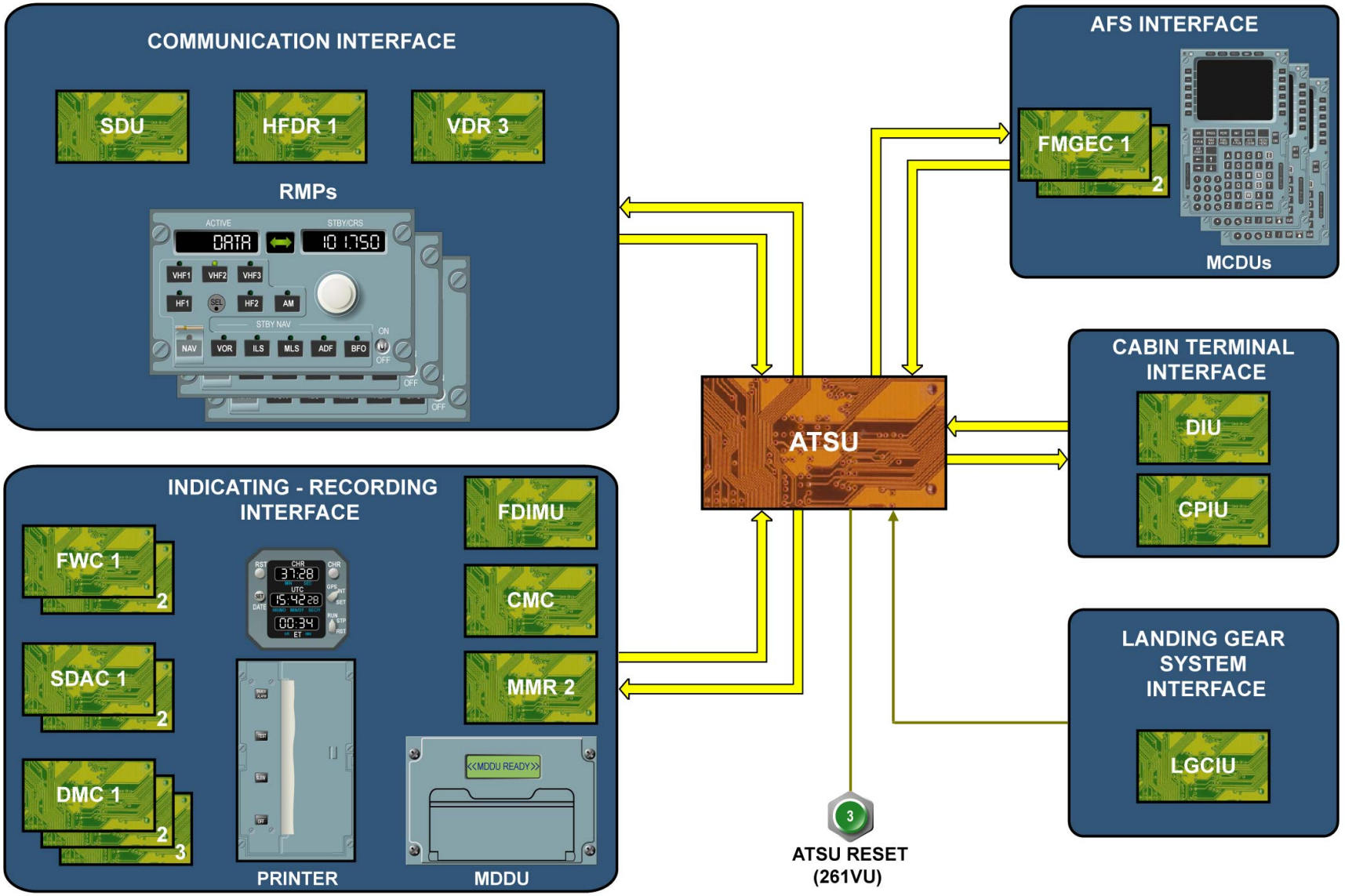

ATSU INTERFACES - ACARS COMMUNICATION ... RESET

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ATIMS D/O (3)

ATSU DESCRIPTION

The ATSU software is partitioned into two main parts:
- aircraft interface/host platform,
- data link applications.

A/C INTERFACE/HOST PLATFORM SOFTWARE CHARACTERISTICS

The aircraft interface / host platform is composed of four services:
- the air/ground communication services,
- the Human-Machine Interface (HMI),
- the on-board peripherals,
- the system management.

The air/ground communication is used for the management of the air/ground communication media such as the HFDR1, VDR3 and Satellite Communication (SATCOM).

The HMI is used for the management of the Communication Navigation Surveillance (CNS) / Air Traffic Management (ATM) cockpit interfaces (DCDU, MCDU, printer and alert function).

The on-board peripherals are used for the management of the communication exchanges with the on-board peripheral units: the FDIMU, the CMC, the Flight Management System (FMS) and the Cabin Terminal (CT).

The system management is used for the acquisition and broadcasting of peripheral computer data, management of data loader protocol and monitoring of the system (power supply and BITE functions).

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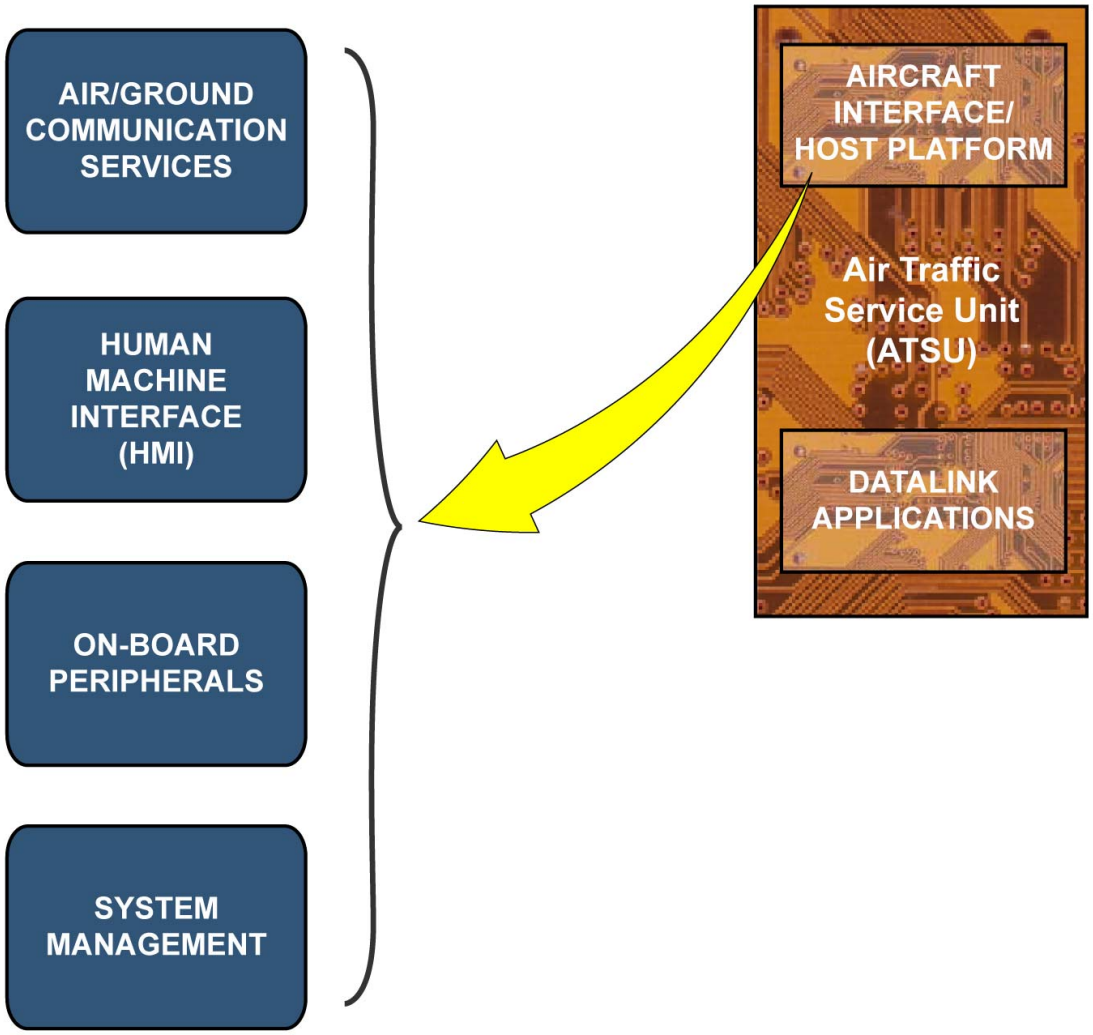

ATSU DESCRIPTION - A/C INTERFACE/HOST PLATFORM SOFTWARE CHARACTERISTICS

ATIMS D/O (3)

ATSU DESCRIPTION (continued)

DATALINK APPLICATIONS

The data link applications include the ATC and the AOC. The ATC software is the same for all airlines and operators. The AOC software is highly customized and fulfills the airline operational and commercial requirements.

The ATC applications are dedicated to exchange data and information between the aircraft and the ATC centers. The ATC is composed of:

- ATS Facilities Notification (AFN), for connection with an ATC ground center,
- Controller Pilot Data Link Communication (CPDLC), which enables the dialog between the flight crew and the ATC by managing uplink and downlink messages,
- ADS, for aircraft path surveillance,
- Departure Clearance (DC), which gives automated assistance to request and deliver departure information and clearances,
- Oceanic Clearance (OC), which gives automated assistance to request and deliver an oceanic clearance from the oceanic ATC center prior to enter oceanic airspace,
- Automatic Terminal Information Service (ATIS), which lets the flight crew to request and obtain information on active terminal conditions such as runway, approach procedure, meteorological parameters (wind, visibility, weather, clouds, runway surface conditions...).

The AOC applications are dedicated to data communication services between the aircraft and the airline facility. The AOC is composed of:

- the remote AOC applications,
- the hosted AOC applications.

For the remote AOC applications, the ATSU only routes data to and from AOC peripherals. The remote AOC peripherals are:

- the FMS,
- the Central Maintenance System (CMS),
- the ACMS,
- the CT.

This routing is in charge of receiving ground messages and routing them to the right AOC peripheral. The ATSU also collects data and reports from various peripherals and ensures their broadcast to the ground.

The hosted AOC applications include standard and customized functions. They can be uploaded into the ATSU, once installed on the aircraft.

The software determines:

- the various AOC menu contents and displays,
- the processing, printing and display of all messages received from the AOC,
- the generation, triggering and sending of all messages.

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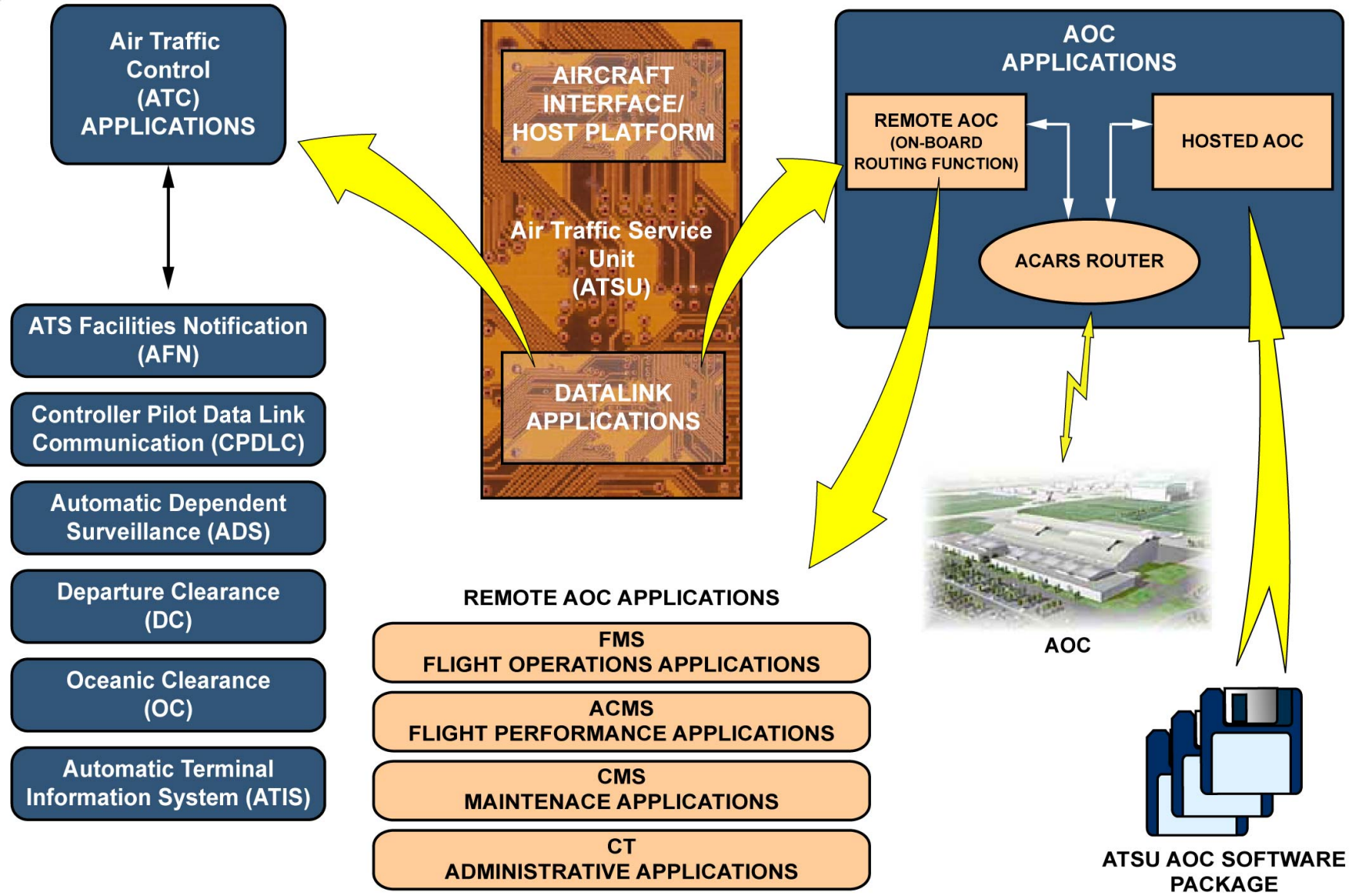

ATSU DESCRIPTION - DATALINK APPLICATIONS

ATIMS D/O (3)

ATSU OPERATION

Software upload is necessary to enable complete ATSU operation. This can only be done on ground through the data loader. The ATSU software types are specific to the following functions:
- A/C interface/host platform software package,
- AOC application (customized),
- ATC applications.

Between each software type uploading, an ATSU data loader disconnection must take place. It allows re-initialization of the ATSU (this is indicated by the DATALINK ATSU FAULT warning going off).
The ATSU and the Datalink Control and Display Unit (DCDU) are supplied from the main bus bar. In case of ATSU failure, the voice mode is used as a backup.

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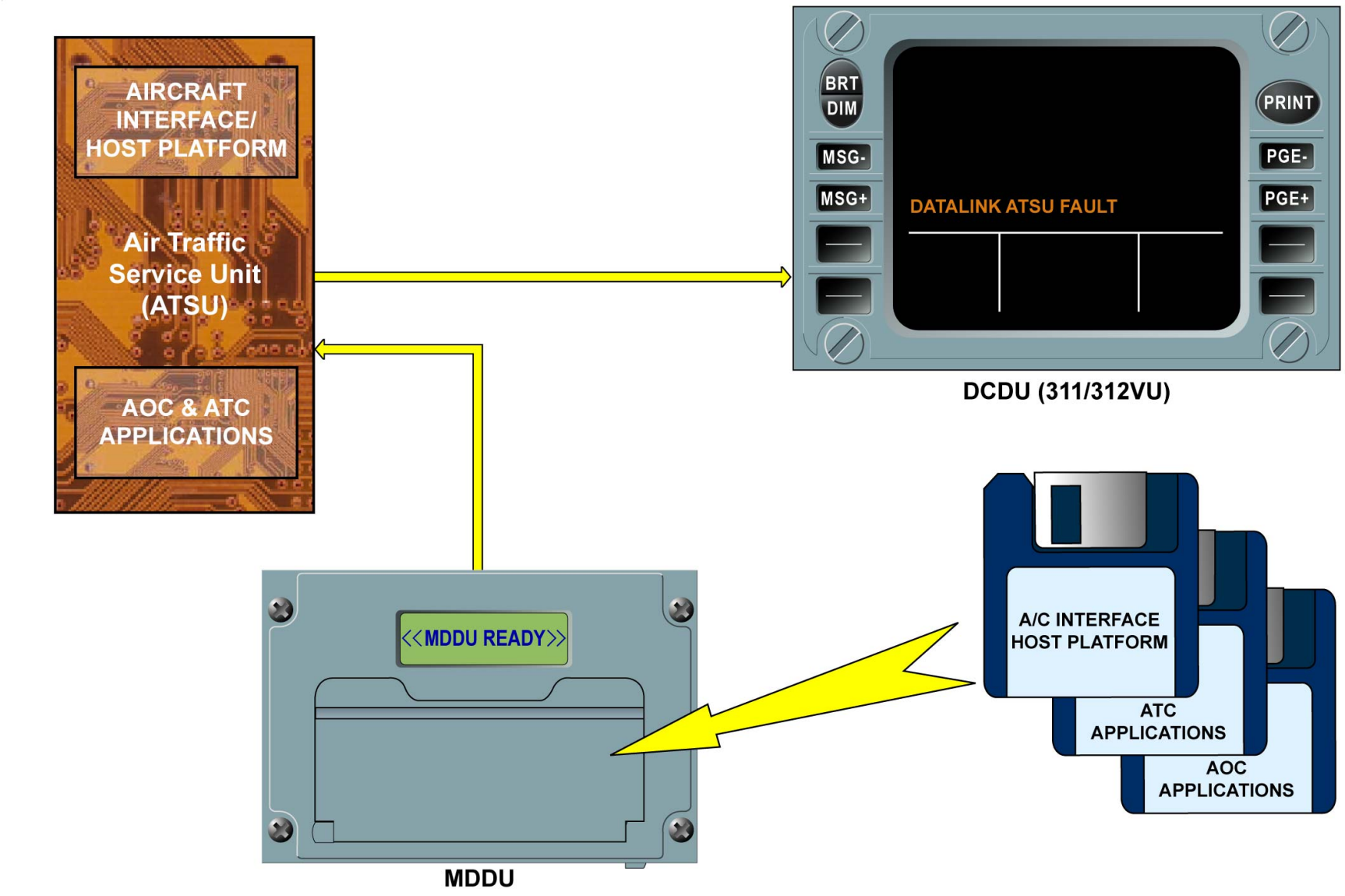

ATSU OPERATION

ATIMS MENU D/O (3)

ATSU MAIN TREE

The Air Traffic Service Unit (ATSU) line key of the MCDU menu gives access to:
- Communication functions of the ATSU,
- Airline Operational Control (AOC) hosted applications,
- Air Traffic Control (ATC) applications.

To get access to the COMM MENU:
-MCDU MENU page
-ATSU
-ATSU MENU with 3 sub-menus:
-ATC MENU
-AOC MENU
-COMM MENU
-COMM MENU with 6 sub-menus:
-COMM INIT
-VHF3 DATA MODE
-VHF3 VOICE DIRECTORY
-COMM STATUS
-COMPAGNY CALL
-MAINTENANCE

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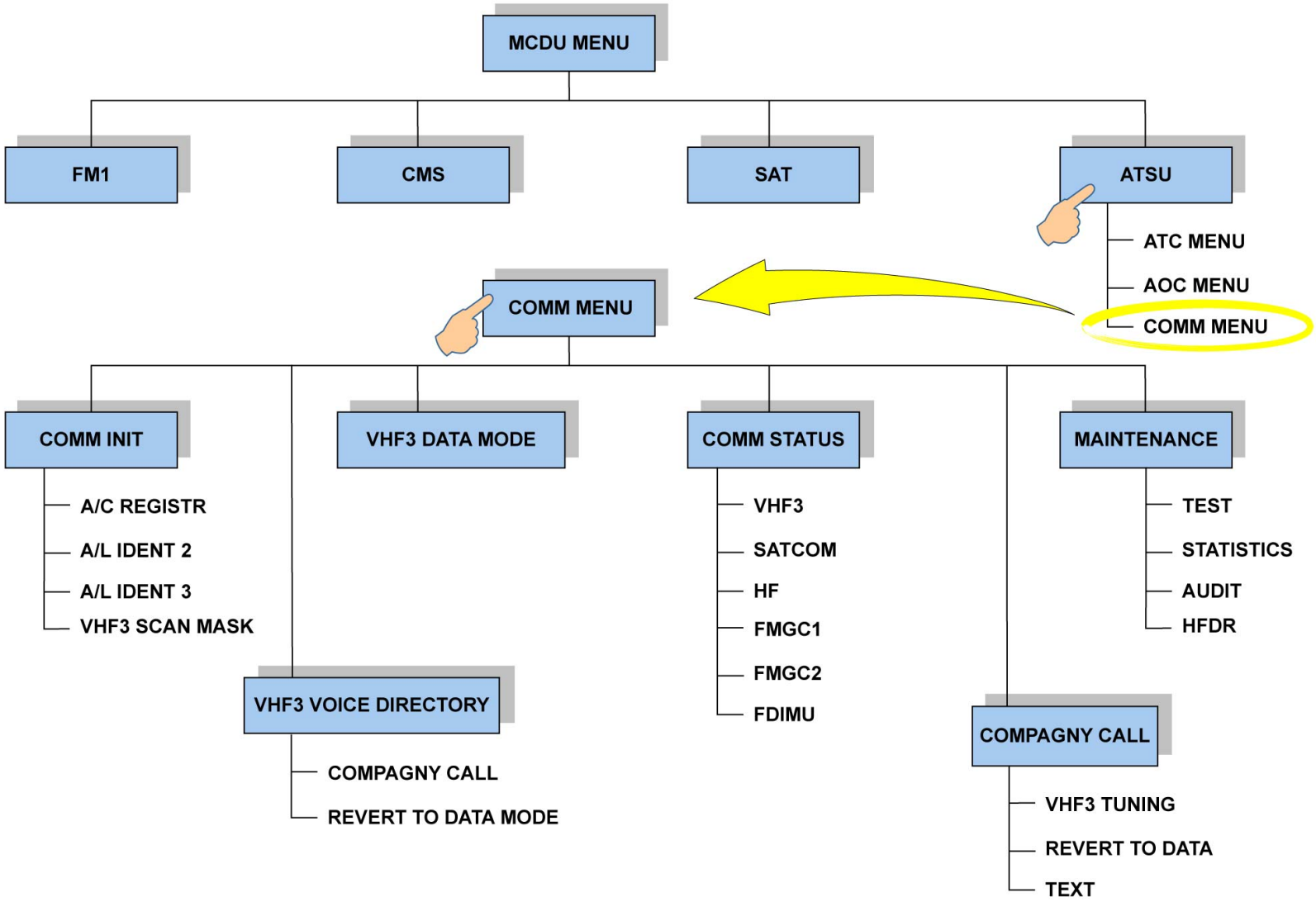

ATSU MAIN TREE

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ATIMS MENU D/O (3)

COMM MENU

From MCDU MENU:
- Push the ATSU line key: the ATSU DATALINK menu is presented
- Push the COMM MENU line key: the COMM menu is presented
- Push the COMM INIT line key: the COMM INIT menu is presented
- Push the VHF3 SCAN MASK line key: the DSP selection is available.

The COMM MENU is used for management and control of the air/ground router. The air/ground communication functions and services are active as soon as their initialization is complete.
The initializations (through COMM INIT menu) are considered as completed when the ATSU has received a valid Aircraft Registration Number (ARN), airline (A/L) identification and scan mask. The ARN and airline identification are used in the air/ground communication as aircraft addressing means.
The VHF3 SCAN MASK gives an ordered list of authorized service providers usable for data communications.

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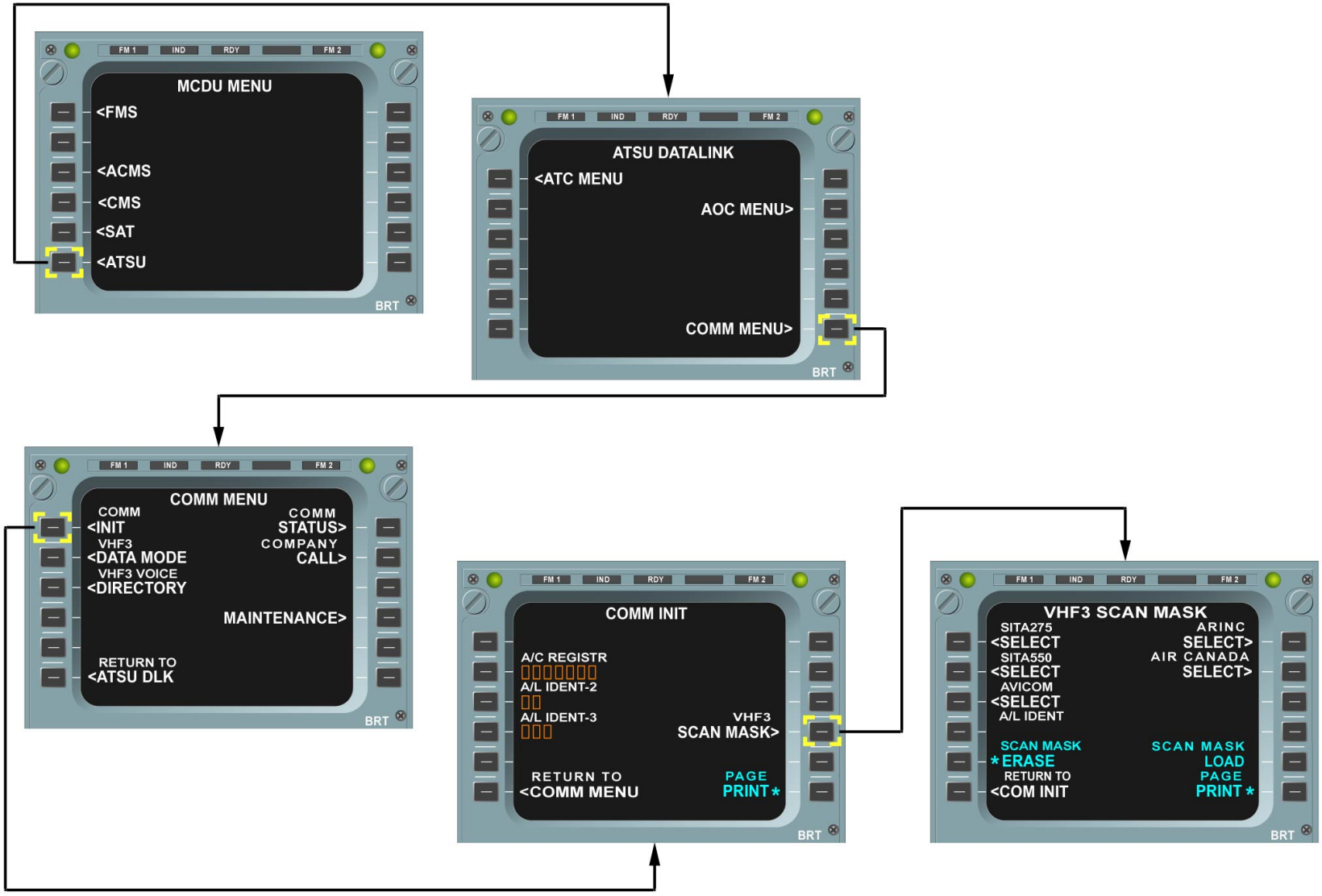
MCDU MENU
<FMS
<ACMS
<CMS
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<ATSU
ATSU DATALINK
<ATC MENU
AOC MENU>
COMM MENU>
COMM MENU
COMM
<INIT
COMM
STATUS>
VHF3
<DATA MODE
COMPANY
CALL>
VHF3 VOICE
<DIRECTORY
MAINTENANCE>
RETURN TO
<ATSU DLK
COMM INIT
A/C REGISTR
A/L IDENT-2
A/L IDENT-3
VHF3
SCAN MASK>
RETURN TO
<COMM MENU
PAGE
PRINT*
VHF3 SCAN MASK
SITA275
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ARINC
SELECT>
SITA550
<SELECT
AIR CANADA
SELECT>
AVICOM
<SELECT
A/L IDENT
SCAN MASK
*ERASE
SCAN MASK
LOAD
RETURN TO
<COM INIT
PAGE
PRINT*
BRT

COMM MENU

ATIMS MENU D/O (3)

COMM MENU (continued)

COMM MENU OVERVIEW

From the COMM MENU:
- Push the VHF3 DATA MODE: VHF3 DATA MODE menu is presented, the list of the selected DSPs is displayed in Cyan color and the ACTIVE DSP is displayed in Green color.
- Push the VHF3 VOICE DIRECTORY line key: Operating frequencies are displayed.
- Push the COMM STATUS line key: The status of the communication medias (VHF, HF, SATCOM) is displayed.

The COMM MENU MCDU page allows access to the VHF3 VOICE DIRECTORY page, which is used:
- to display a voice frequency directory,
- to activate one of these frequencies,
- to select the data mode,
- to activate the voice frequency contained in the last received company call,
- to manually enter a frequency.

The COMM MENU MCDU page allows access to the COMM STATUS page, which is used to check the communication status of the ATSU:
- the air/ground communication media status: VHF3, HF1 and Satellite Communication (SATCOM), if installed,
- the on-board peripherals communication (router) status.

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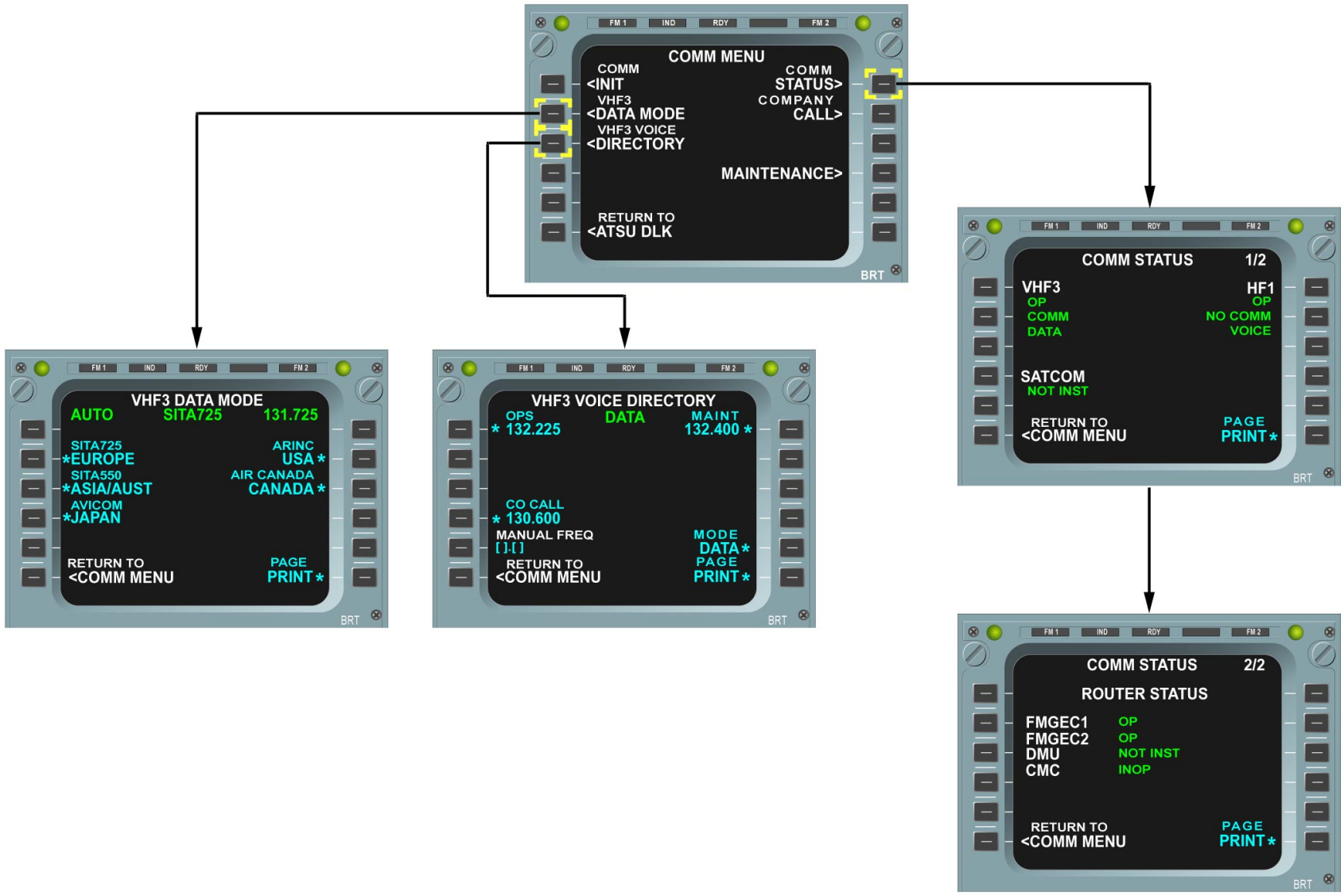


COMM MENU - COMM MENU OVERVIEW

G9409341 - GAUT0T0 - FM46D2000000002

ATIMS MENU D/O (3)

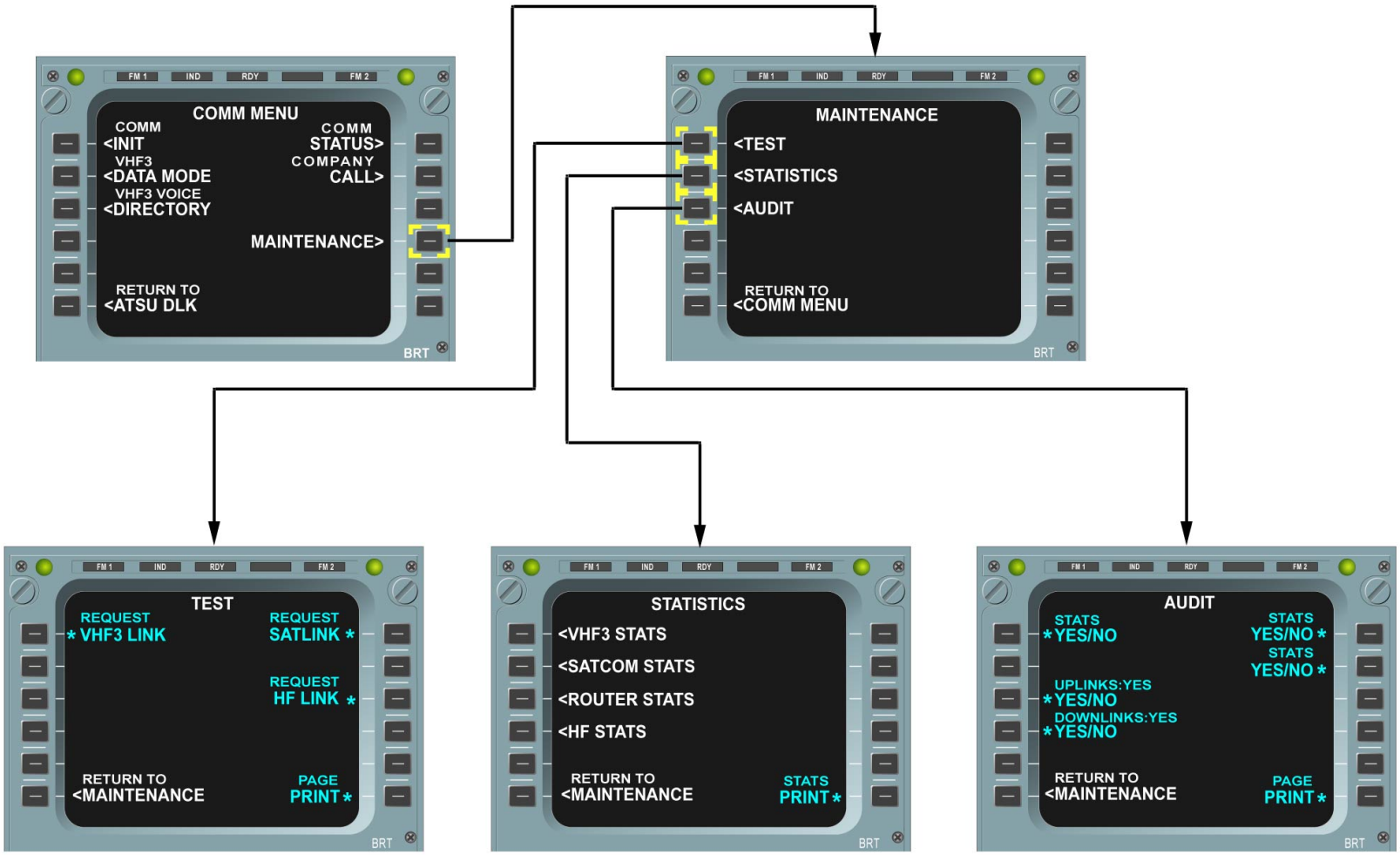
COMM MENU (continued)

MAINTENANCE MENU

From the COMM MENU:
- Push the MAINTENANCE line key: The MAINTENANCE MENU is presented.
- Push the TEST line key: The communication transceivers test is available.
- Push the STATISTICS line key: Statistics of transceivers and router are available.
- Push the AUDIT line key: the AUDIT (Engineering) functions are available.

The COMM MENU MCDU page allows access to the MAINTENANCE menu, which comprises three functions:
- TEST function, which is used to test the link between the communication media (VHF3, HF and SATCOM) and the ground,
- STATISTICS function, which enables media and router statistics (number of up linked messages, number of down linked messages, etc) to be visualized,
- AUDIT function, to print out exchanged messages per media and router, depending on the selection. If ON is selected, all exchanged messages during the flight will be printed.

G9409341 - GAUT0T0 - FM46D2000000002



COMM MENU - MAINTENANCE MENU

G9409341 - GAUT0T0 - FM46D2000000002

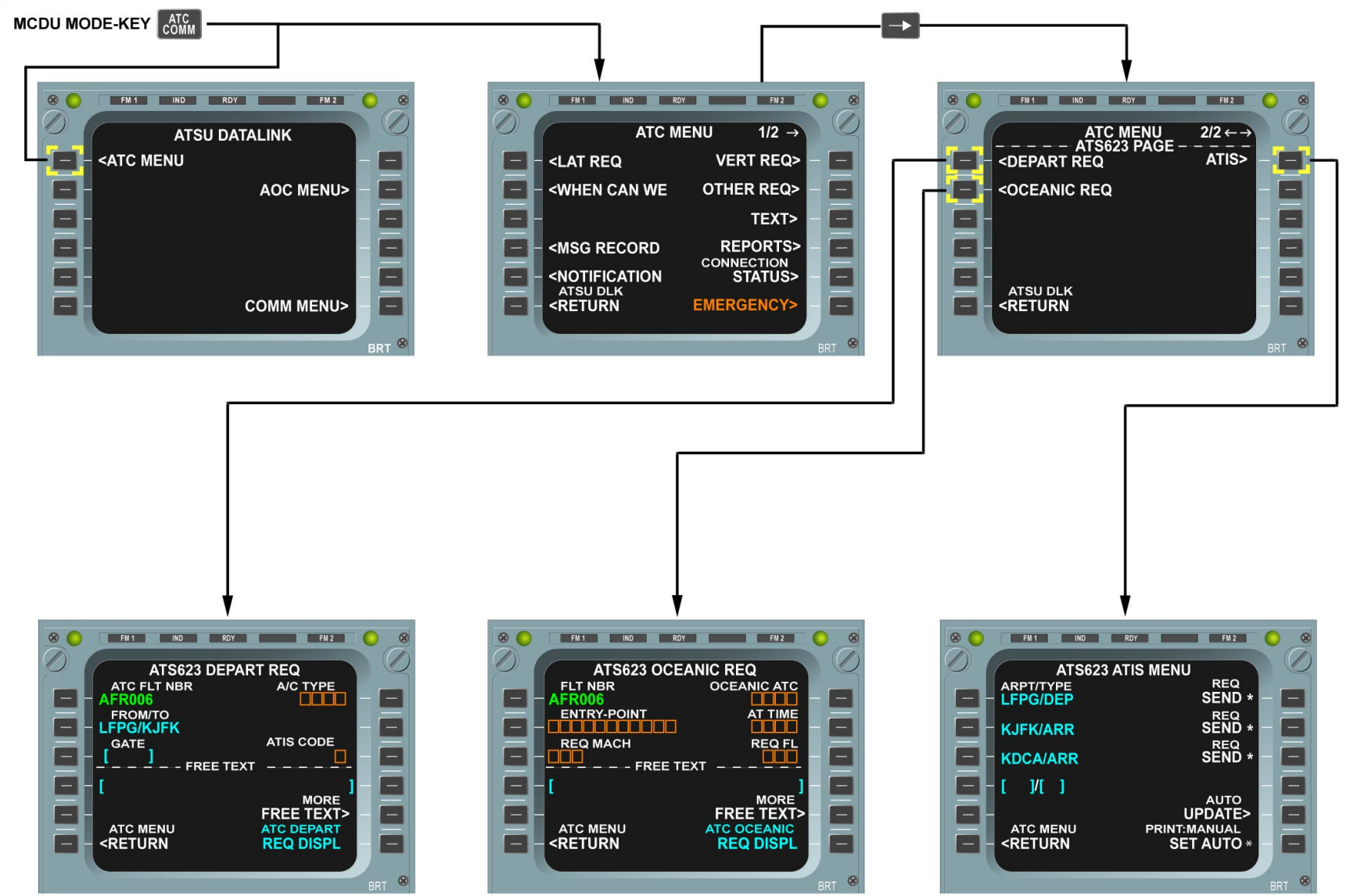
ATIMS MENU D/O (3)

ATC MENU

From the MCDU MENU:
- Push the ATC COMM key-board P/B: the ATSU DATALINK MENU is shown.
- Push the ATC MENU line key: the ATC MENU 1/2 is shown.
- Push the next page key-board arrow: the ATC MENU 2/2 is shown.
- Push the DEPART REQ line key: Departure data are displayed.
- Push the OCEANIC REQ line key: Oceanic data are displayed.

The ATC MENU page 2 gives access to the DEPARTURE REQuest page, which gives automated assistance to request and deliver departure information and clearances.
The ATC MENU page 2 gives access to the OCEANIC REQ page, which gives automated assistance to request and deliver an oceanic clearance from the oceanic ATC center prior to enter oceanic airspace.
The ATC MENU page 2 gives access to the ATIS MENU page to request and obtain information on active terminal conditions, such as runway, approach procedure, meteorological parameters (wind, visibility, weather, clouds, runway surface conditions...).

G9409341 - GAUT0T0 - FM46D2000000002


MCDU MODE-KEY
ATC COMM
ATSU DATALINK
<ATC MENU
AOC MENU>
COMM MENU>
ATC MENU 1/2 →
<LAT REQ
VERT REQ>
<WHEN CAN WE
OTHER REQ>
TEXT>
<MSG RECORD
REPORTS>
CONNECTION STATUS>
<NOTIFICATION
ATSU DLK
<RETURN
EMERGENCY>
ATC MENU 2/2 ←→
ATS623 PAGE
<DEPART REQ
ATIS>
<OCEANIC REQ
ATSU DLK
<RETURN
ATS623 DEPART REQ
ATC FLT NBR
A/C TYPE
AFR006
FROM/TO
LFPG/KJFK
GATE
ATIS CODE
FREE TEXT
MORE
FREE TEXT>
ATC MENU
<RETURN
ATC DEPART
REQ DISPL
ATS623 OCEANIC REQ
FLT NBR
OCEANIC ATC
AFR006
ENTRY-POINT
AT TIME
REQ MACH
REQ FL
FREE TEXT
MORE
FREE TEXT>
ATC MENU
<RETURN
ATC OCEANIC
REQ DISPL
ATS623 ATIS MENU
ARPT/TYPE
REQ
LFPG/DEP
SEND *
KJFK/ARR
SEND *
KDCA/ARR
SEND *
AUTO
UPDATE>
ATC MENU
<RETURN
PRINT:MANUAL
SET AUTO *
BRT

ATC MENU

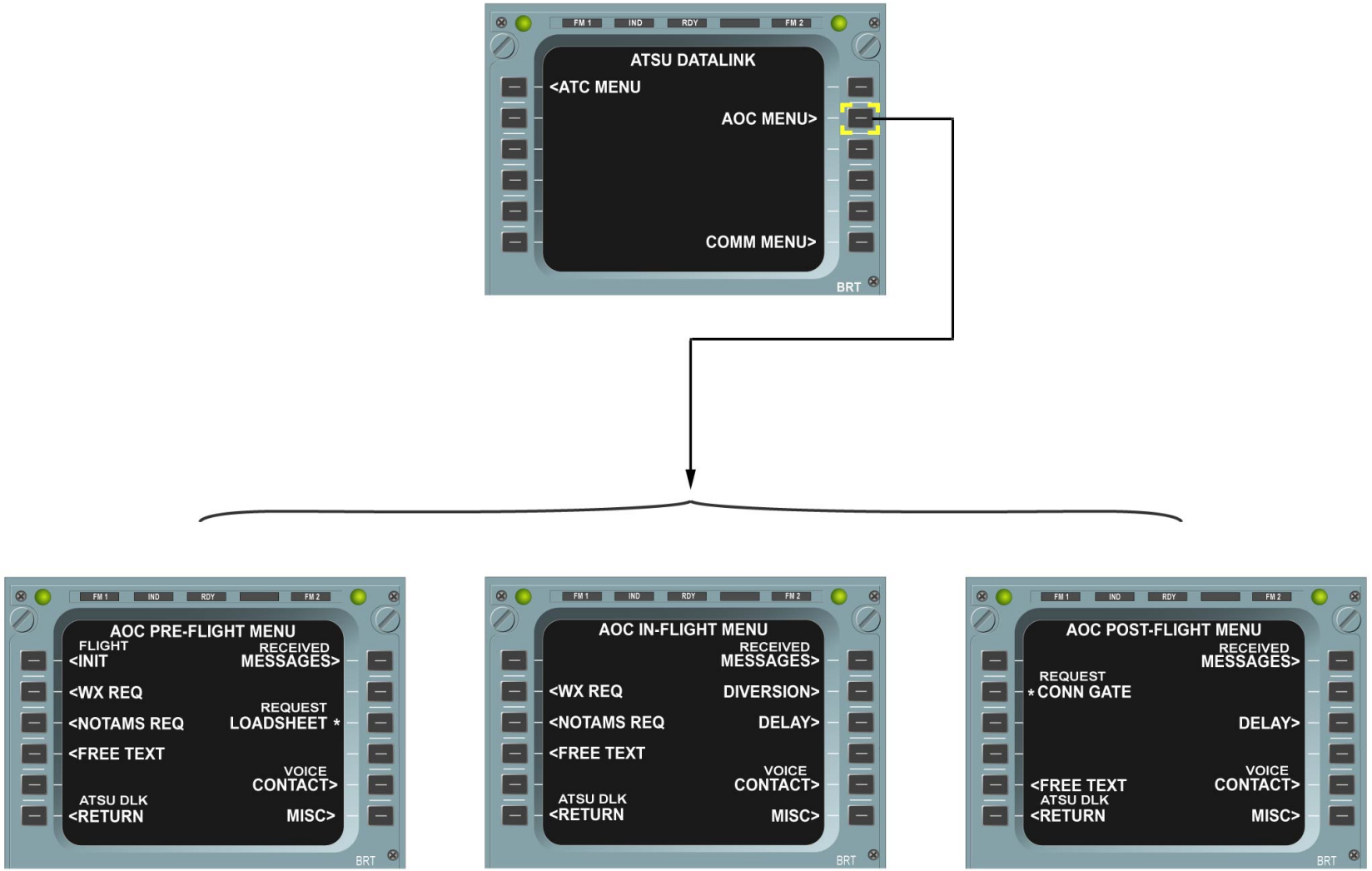
ATIMS MENU D/O (3)

AOC MENU

From the MCDU MENU:
- Push the ATSU line key: the ATSU DATALINK MENU is shown.
- Push the AOC line key: the AOC MENU is shown.

Depending on the aircraft flight phase relateded to specific conditions, 3 sub-menus are shown:
- AOC PRE-FLIGHT MENU used to do the flight preparation.
- AOC IN-FLIGHT MENU used to monitor and control the communications.
- AOC POST-FLIGHT MENU with a restricted access used when the aircraft is on ground.

G9409341 - GAUT0T0 - FM46D2000000002


FM 1
IND
RDY
FM 2
ATSU DATALINK
<ATC MENU
AOC MENU>
COMM MENU>
BRT
AOC PRE-FLIGHT MENU
FLIGHT
<INIT
RECEIVED
MESSAGES>
<WX REQ
<NOTAMS REQ
REQUEST
LOADSHEET *
<FREE TEXT
VOICE
CONTACT>
ATSU DLK
<RETURN
MISC>
AOC IN-FLIGHT MENU
RECEIVED
MESSAGES>
<WX REQ
DIVERSION>
<NOTAMS REQ
DELAY>
<FREE TEXT
VOICE
CONTACT>
ATSU DLK
<RETURN
MISC>
AOC POST-FLIGHT MENU
RECEIVED
MESSAGES>
REQUEST
* CONN GATE
DELAY>
<FREE TEXT
VOICE
CONTACT>
ATSU DLK
<RETURN
MISC>

AOC MENU

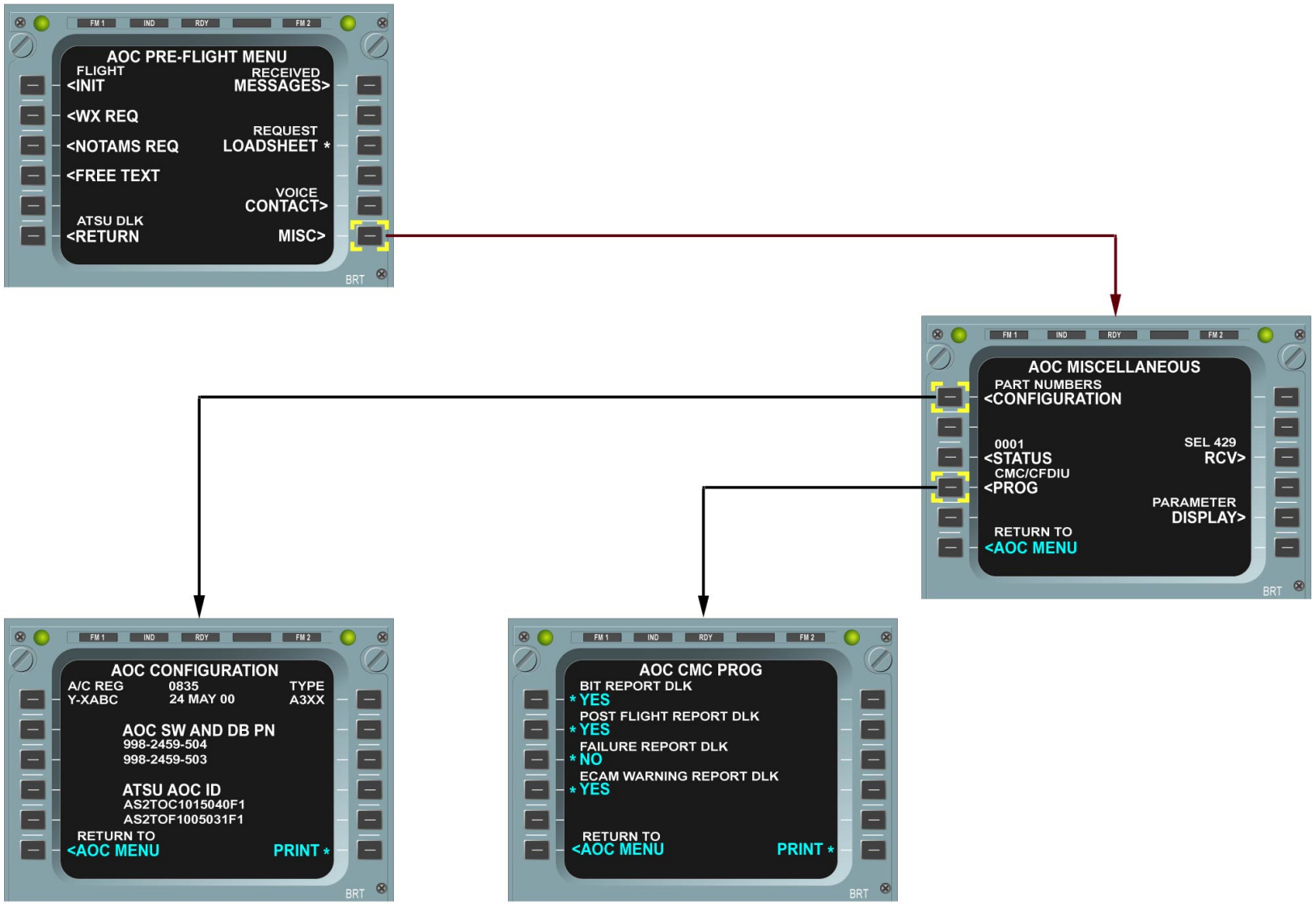
ATIMS MENU D/O (3)

AOC MENU (continued)

MISC MENU

The MISC MENU is available inside any of these 3 selected sub-menus.
The AOC PRE-FLIGHT MENU allows access to the AOC MISCELLANEOUS page. The "MISC" page helps in the installation and troubleshooting of the AOC system. This page shows the AOC configuration to check which correct AOC software and/or database has been successfully loaded into the ATSU. It also displays the current settings for the Central Maintenance Computer (CMC) reporting options.

G9409341 - GAUT0T0 - FM46D2000000002



AOC MENU - MISC MENU

G9409341 - GAUT0T0 - FM46D2000000002

ATIMS MENU D/O (3)

STEP-BY-STEP PROCEDURES (EXAMPLES)

Some examples of Step-by-Step procedures:
1: Initialization Procedure of the ATSU Router.
2: Operational Test of the ATSU.
3: VHF3 Link test of the ATSU.

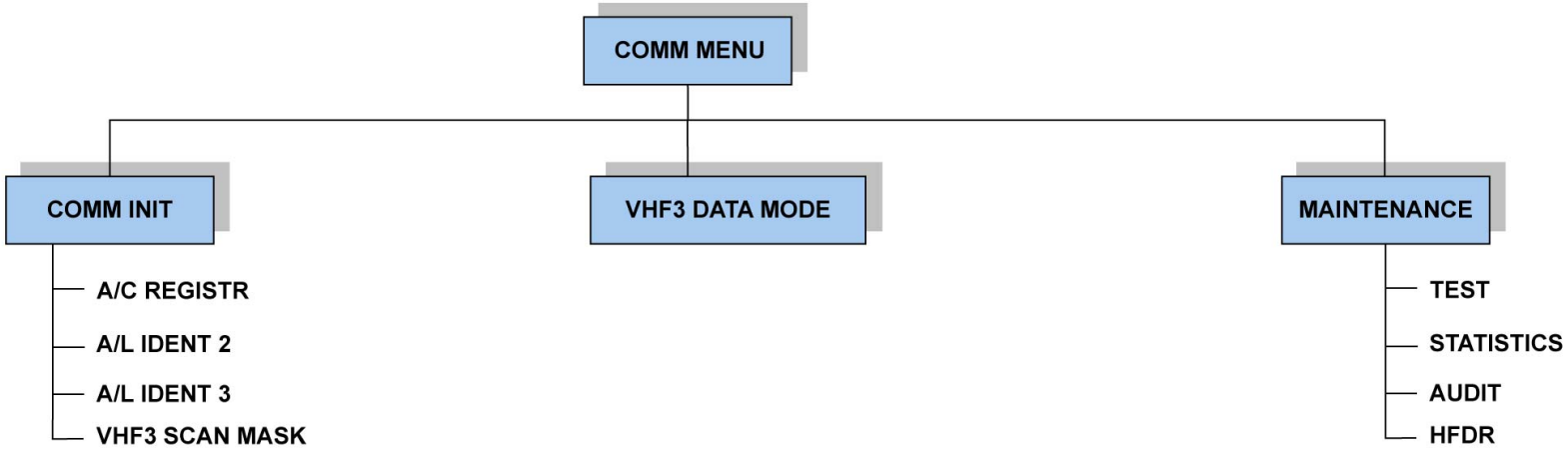
G9409341 - GAUT0T0 - FM46D2000000002

Some examples of Step-by-Step procedures:

1: Initialization Procedure of the ATSU Router

2: Operational Test of the ATSU

3: VHF3 Link test of the ATSU



STEP-BY-STEP PROCEDURES (EXAMPLES)

G9409341 - GAUT0T0 - FM46D2000000002

ATIMS MENU D/O (3)

STEP-BY-STEP PROCEDURES (EXAMPLES) (continued)

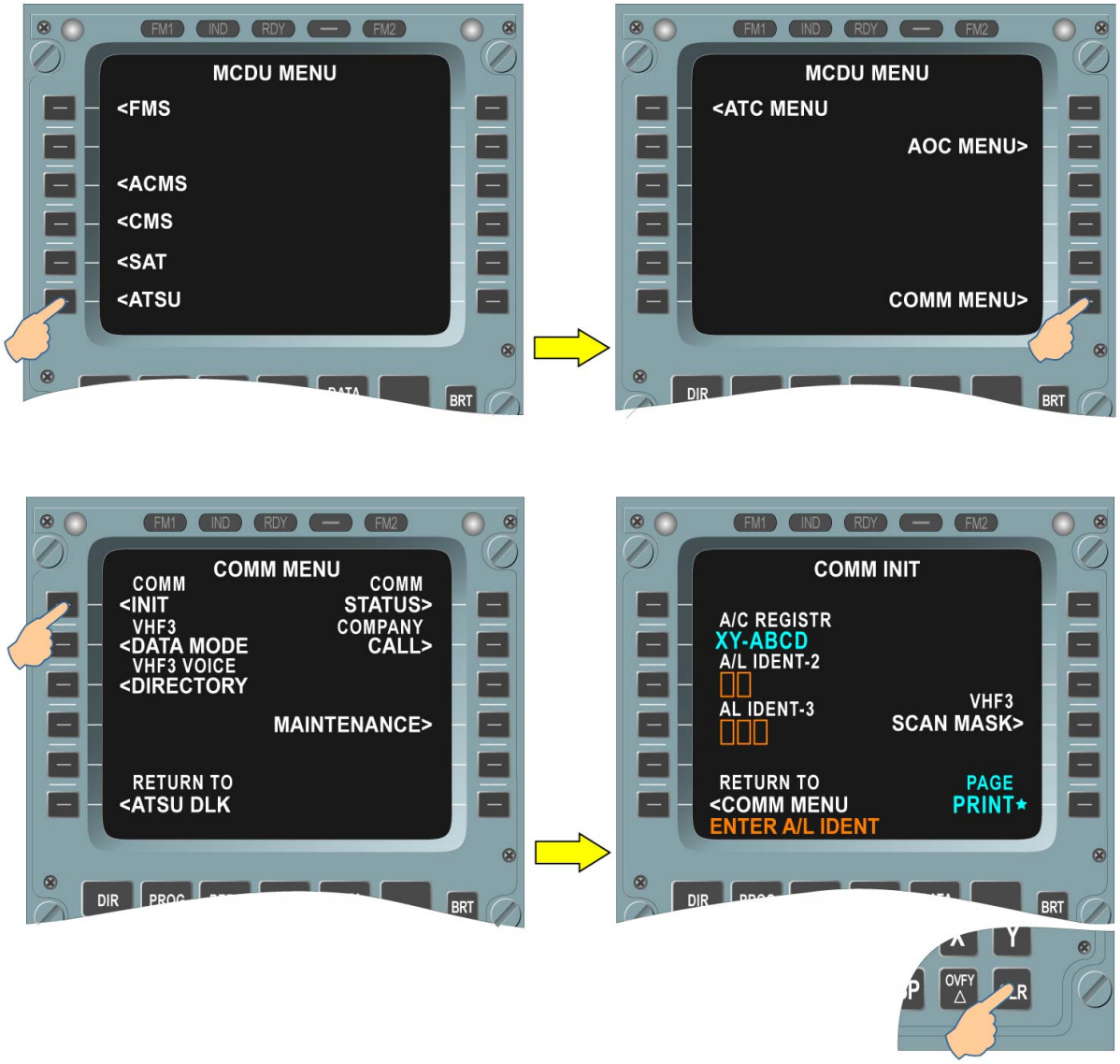
INITIALIZATION OF THE ATSU ROUTER

This procedure, called initialization of the ATSU Router, Enables to active the Air-ground communications functions and services of the ATSU. Three Essential parameters are required:
- A valid flight ident,
- An A/C Registration Number (ARN),
- A valid scan mask.

Push the ATSU line key: the ATSU DATALINK page is displayed.
Push the COMM MENU line key: the COMM MENU page will be displayed.
Push the COMM INIT line key: The COMM INIT page is displayed.
Push the CLR line key: The COMM INIT previous data are erased.
The A/C Registration Number is sent by the CFDIU. The ATSU creates the flight ident by to connect/ to link together the airline ident parameter and the flight number parameter coming from the FMS. The airline ident is not available and must be entered.
Enter the A/L IDENT.
Note:
- A/L IDENT2: For ATC recognition.
- A/L IDENT3: For AOC recognition.

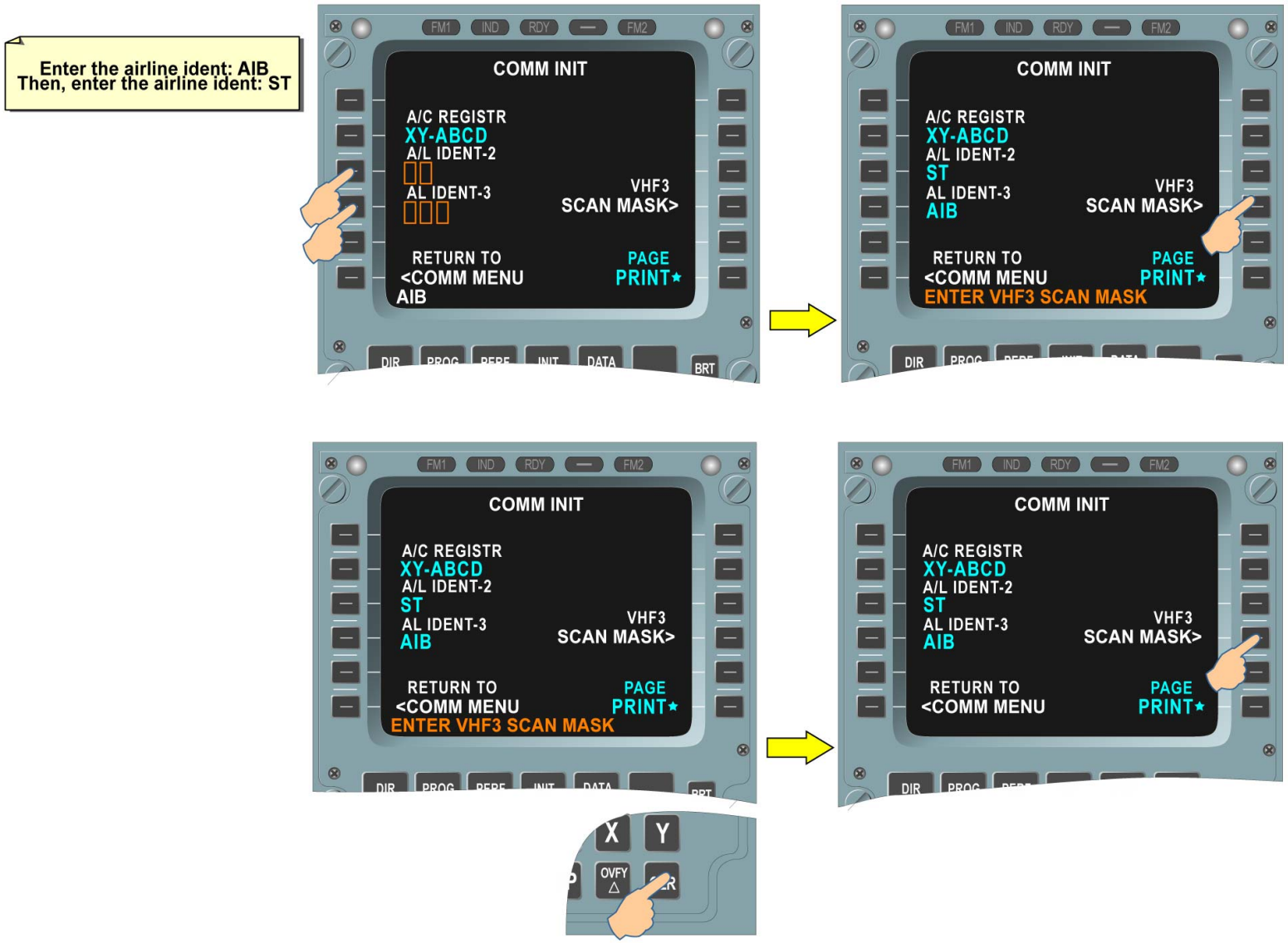
Push the VHF SCAN MASK line key: VHF3 SCAN MASK pages will be displayed.
Push the CLR key: the "ENTER VHF3 SCANMASK" information disappears (Amber).
Push VHF3 SCANMASK line key: VHF3 SCANMASK pages will be displayed.
The VHF scan mask gives an ordered list of service providers usable for VHF data communications. There is the possibility for the operator to define two service providers by entering a password in the scratchpad and by pushing the line key 2R and 3R. The ALL inputs Erase function allows to erase the previous selection.
Push the NEXT PAGE line key: VHF SACN MASK page 1/2 will be displayed.
Push the ALL INPUTS ERASE line key: previous DSP will be erased.
The Scan mask must be a prioritized list of VHF service providers contracted by the airline.
Push the NEXT PAGE key: the VHF SCAN MASK 1/2 is retrieved.
Select the SITA-EUROPE DSP: This DSP is selected (Example).
Select Air Canada DSP: This DSP is selected.
Push the SCAN MASK ACTIVATE line key: All selected DSPs will be activated.
Push the RETURN TO COMM INIT line key: the COMM INIT MENU will be displayed. The initialization of the ATSU Router is now completed and the ACARS STBY memo goes off.
Last check in the VHF3 DATA MODE menu:
Push the RETURN TO COMM MENU line key: the COMM MENU page is displayed.
Push the VHF3 DATA MODE line key: the VHF3 DATA MODE will be displayed.
The VHF3 DATA MODE page displays the Data link Service Providers selected in the VHF3 SCAN MASK menu. SCAN indication means that the Data frequency is not yet tuned (the software is scanning selected DSPs). The AUTO indication means that the DATA frequency is now tuned.
Push the RETURN TO COMM MENU line key: COMM MENU page will be displayed.
Push the RETURN TO ATSU DLK line key: The ATSU DATALINK main menu is displayed.
Initialization procedure is completed.

G9409341 - GAUT0T0 - FM46D2000000002

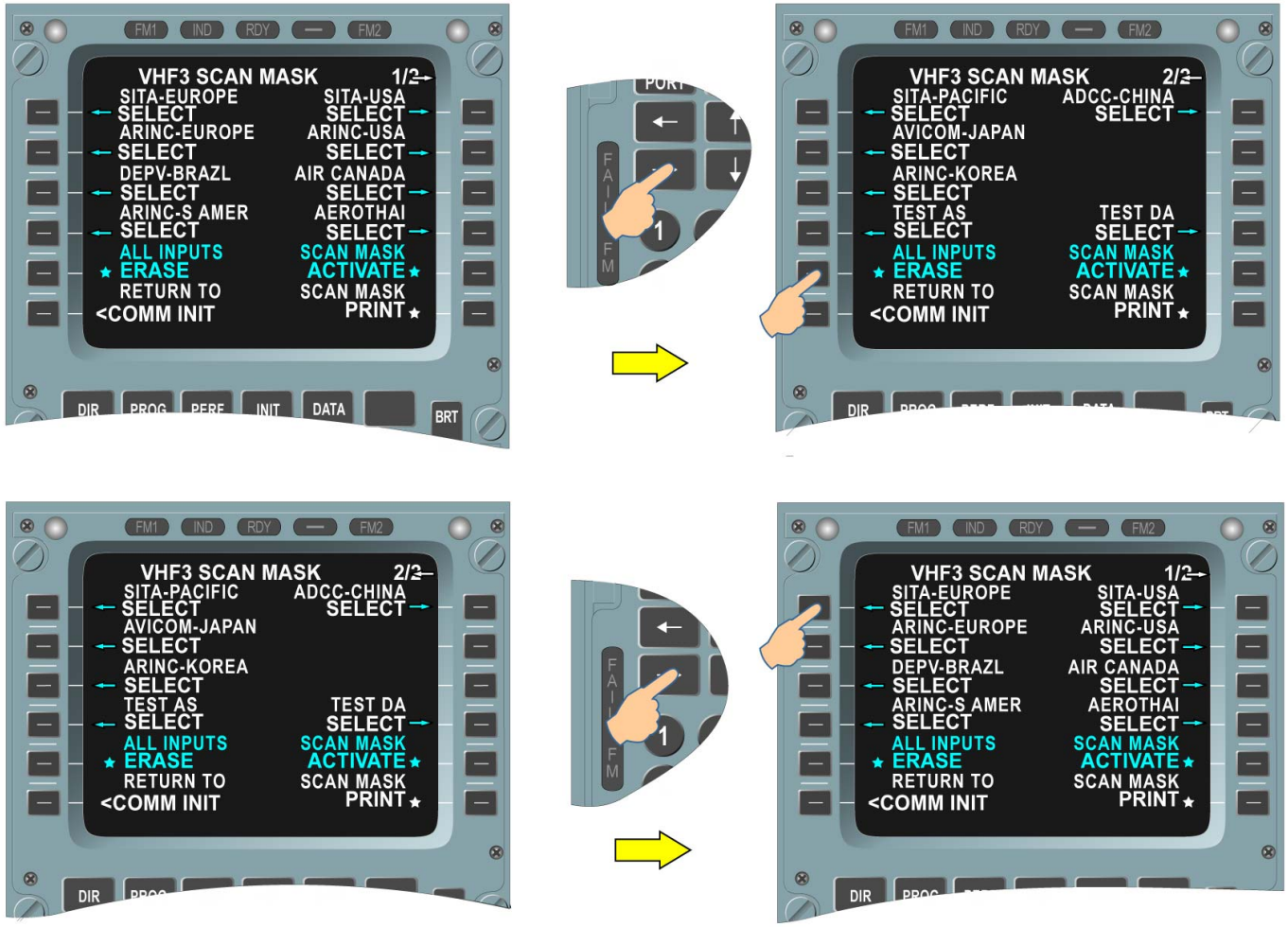


STEP-BY-STEP PROCEDURES (EXAMPLES) - INITIALIZATION OF THE ATSU ROUTER

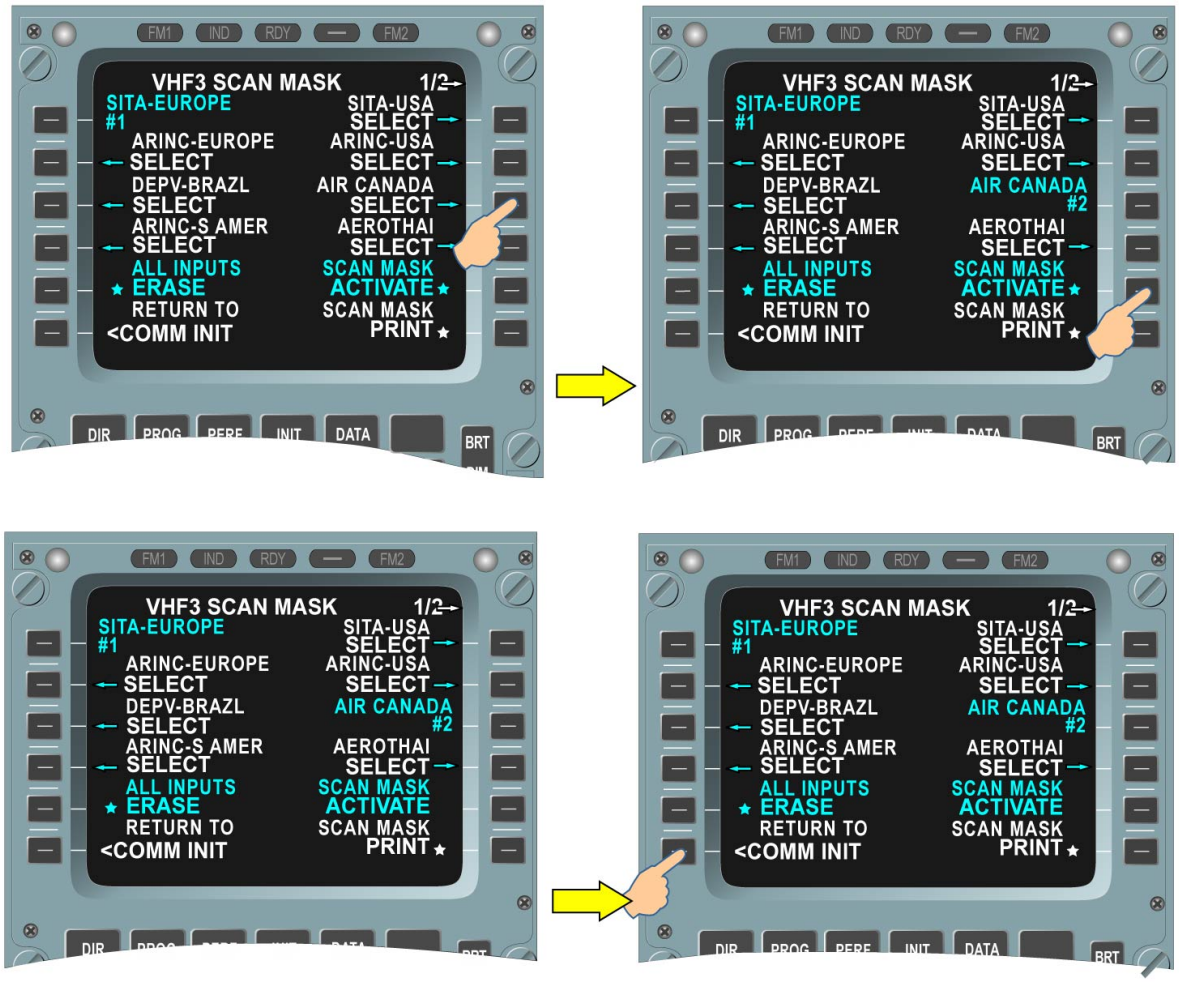
G9409341 - GAUT0T0 - FM46D2000000002



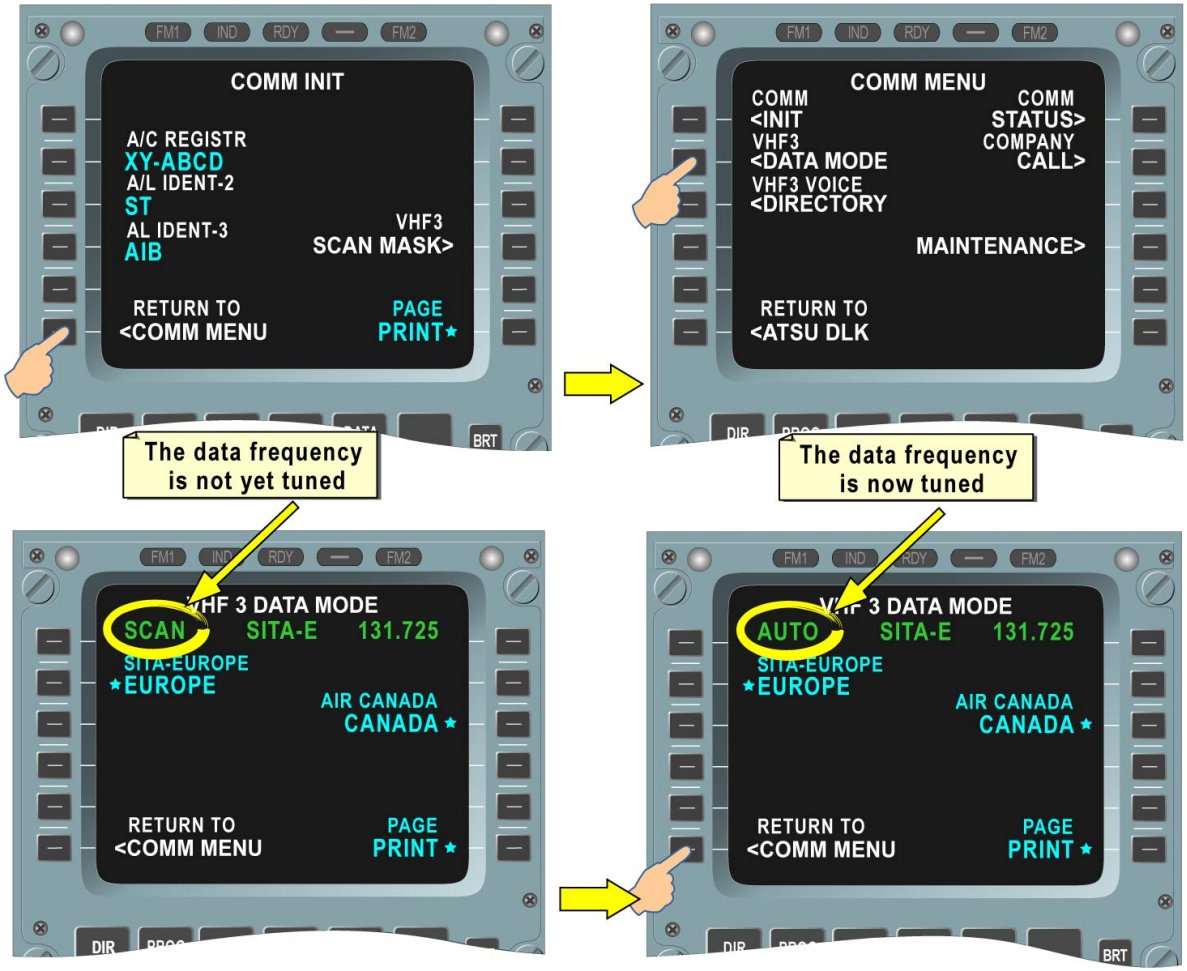
STEP-BY-STEP PROCEDURES (EXAMPLES) - INITIALIZATION OF THE ATSU ROUTER



STEP-BY-STEP PROCEDURES (EXAMPLES) - INITIALIZATION OF THE ATSU ROUTER

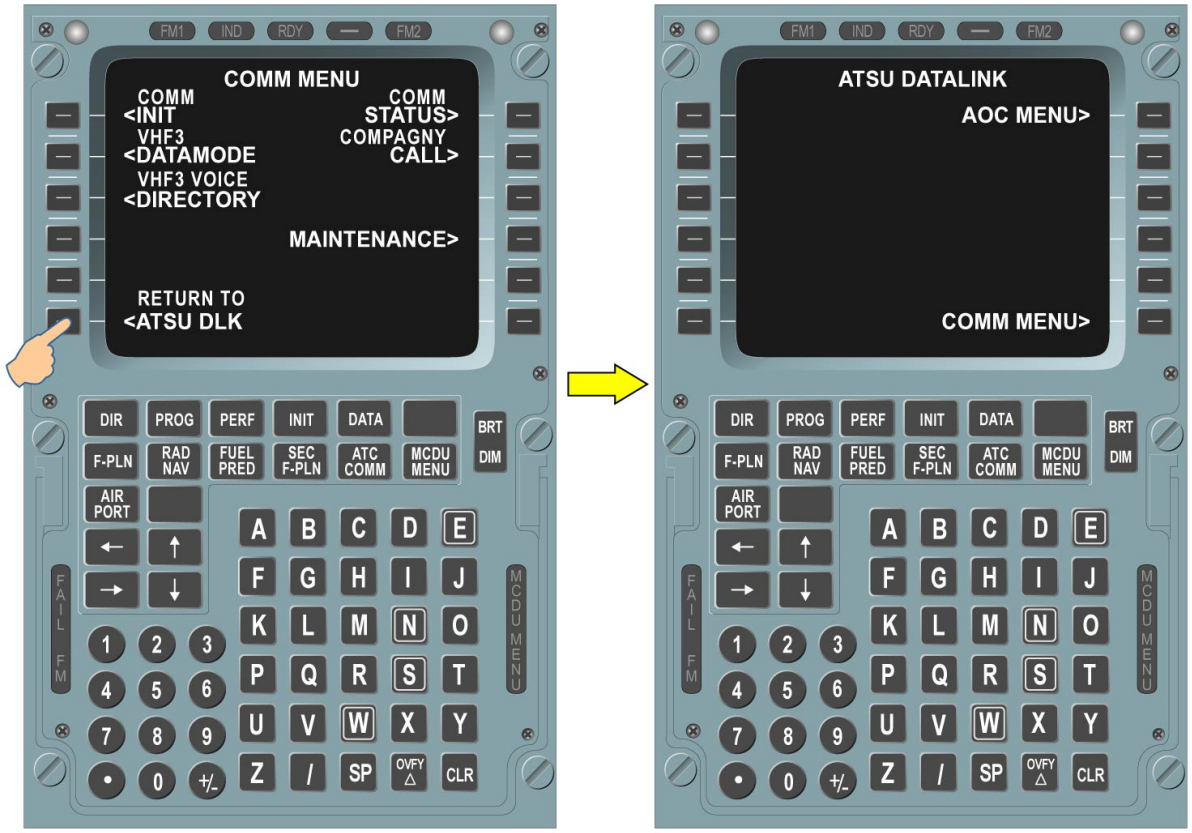


STEP-BY-STEP PROCEDURES (EXAMPLES) - INITIALIZATION OF THE ATSU ROUTER



STEP-BY-STEP PROCEDURES (EXAMPLES) - INITIALIZATION OF THE ATSU ROUTER

G9409341 - GAUT0T0 - FM46D2000000002



Initialization procedure is completed

STEP-BY-STEP PROCEDURES (EXAMPLES) - INITIALIZATION OF THE ATSU ROUTER

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G9409341 - GAUT0T0 - FM46D2000000002

ATIMS MENU D/O (3)

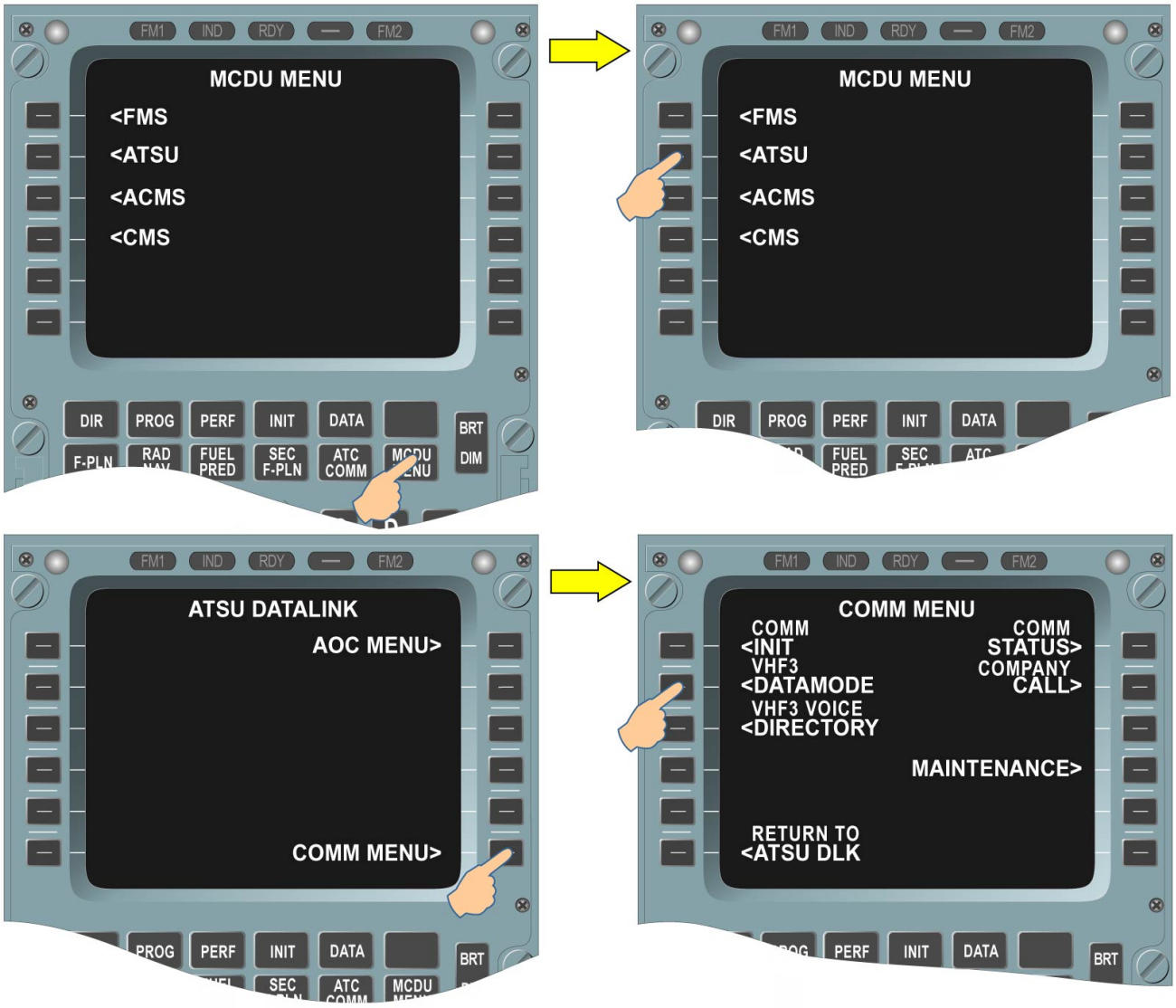
STEP-BY-STEP PROCEDURES (EXAMPLES) (continued)

Operational Test of the ATSU

This procedure, called Operational Test of the ATSU, lets check the ATSU router configuration and test the voice mode.
Push the MCDU MENU key: the MCDU MENU page is displayed..
Push the ATSU line key: the ATSU DATALINK page will be displayed
Push the COMM MENU line key: the COMM MENU is displayed.
Push the VHF3 DATA MODE line key: the VHF3 DATA MODE page will be displayed.
The ATSU automatically controls data frequencies in the order defined in the VHF3 SCAN MASK menu but a service provider can be manually selected.
Push the SITA-EUROPE line key: the DSP SITA EUROPE is manually selected (blue star mark disappears).
Push the RETURN TO COMM MENU line key: the COMM MENU page will be displayed.
The VHF3 VOICE DIRECTORY page is used:
To activate one of the displayed frequencies configured by the AOC application
- To activate the voice frequency requested by the ground (CO CALL),
- To manually enter a frequency,
- To go back to data mode.

The VOICE DIRECTORY PAGE displays the list of the pre-selected frequencies that can be used in VOICE MODE
Push the VHF3 VOICE DIRECTORY line key: the VHF3 VOICE DIRECTORY page is displayed.
The ATSU controls now the VHF3 frequency in VOICE mode., On the RMP, the ACARS indication stays in view in the active window.
The OPS frequency 132.225 will now operate in VOICE MODE and on the RMP Active window DATA is displayed.
Push the W/VHF3 VOICE DIRECTORY line key: the VHF3 currently operates in VOICE MODE.
Push the VHF3 VOICE DIRECTORY line key: the VHF3 VOICE DIRECTORY page is displayed.
Push the MODE DATA line key: the VHF3 will now reverse to the DATA MODE.
The VHF3 operates now in DATA MODE.
Push the RETURN TO COMM MENU line key: the COMM MENU page is displayed.
Push the COMM STATUS line key: COMM STATUS pages will be displayed.
The COMM STATUS page displayed the status of the communication media and the peripherals.
COMM SATUS 1/2 is displayed.
Push the next page KEY/ comm. The Status PAGE 2/2 is displayed.
These pages indicate the status of peripheral systems interconnected with the ATSU. (Job is completed)

G9409341 - GAUT0T0 - FM46D2000000002



STEP-BY-STEP PROCEDURES (EXAMPLES) - OPERATIONAL TEST OF THE ATSU

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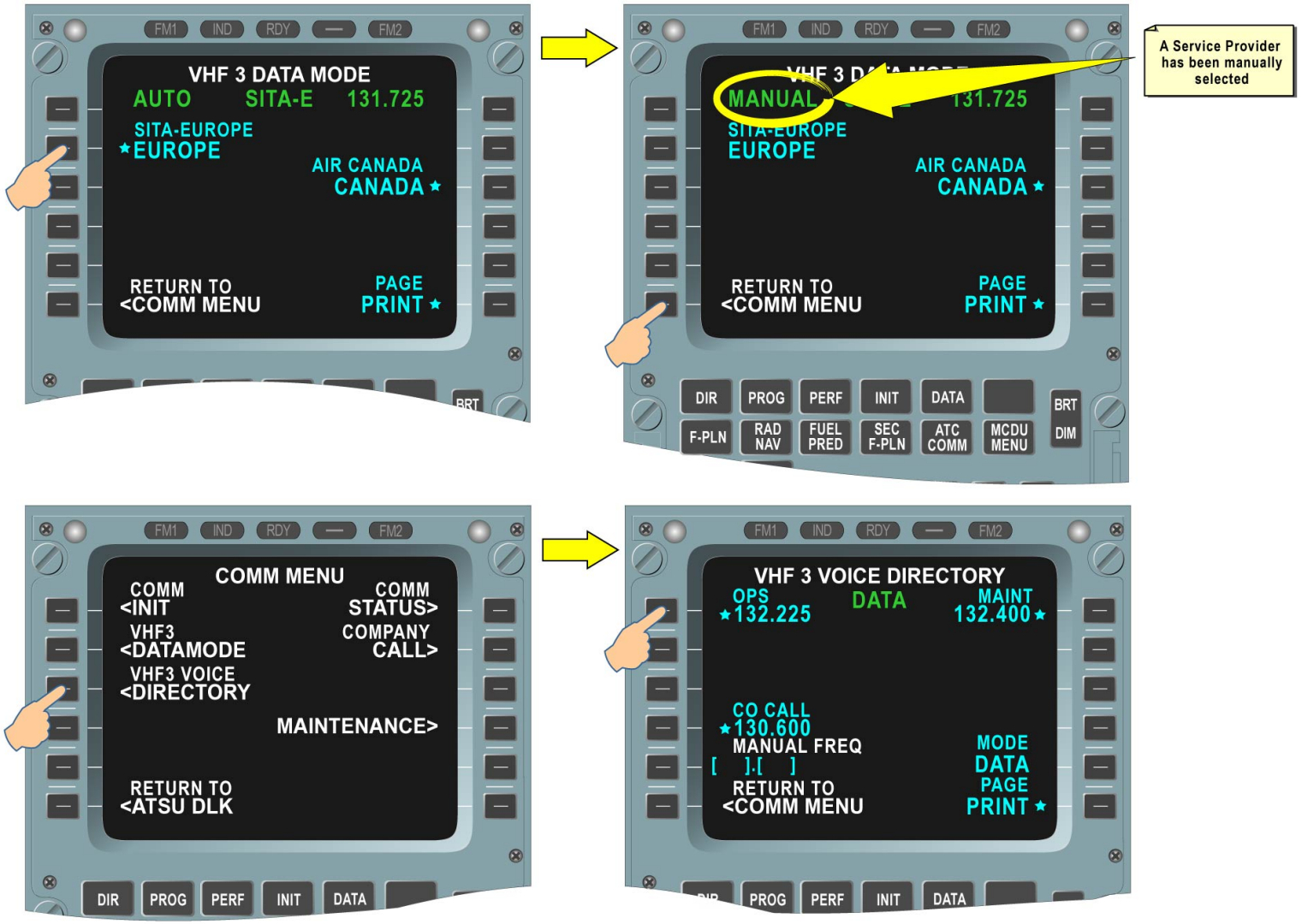

STEP-BY-STEP PROCEDURES (EXAMPLES) - OPERATIONAL TEST OF THE ATSU

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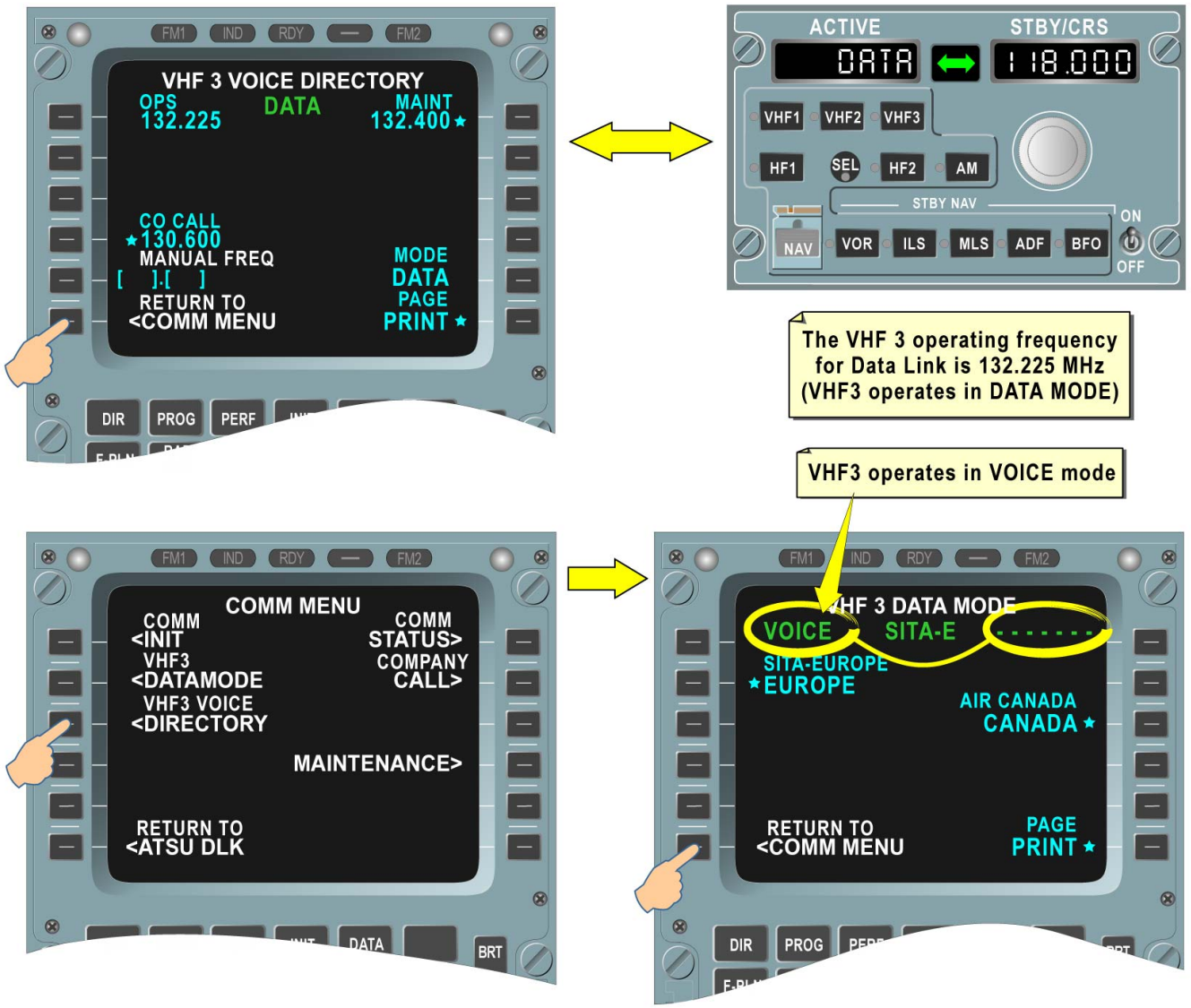

STEP-BY-STEP PROCEDURES (EXAMPLES) - OPERATIONAL TEST OF THE ATSU

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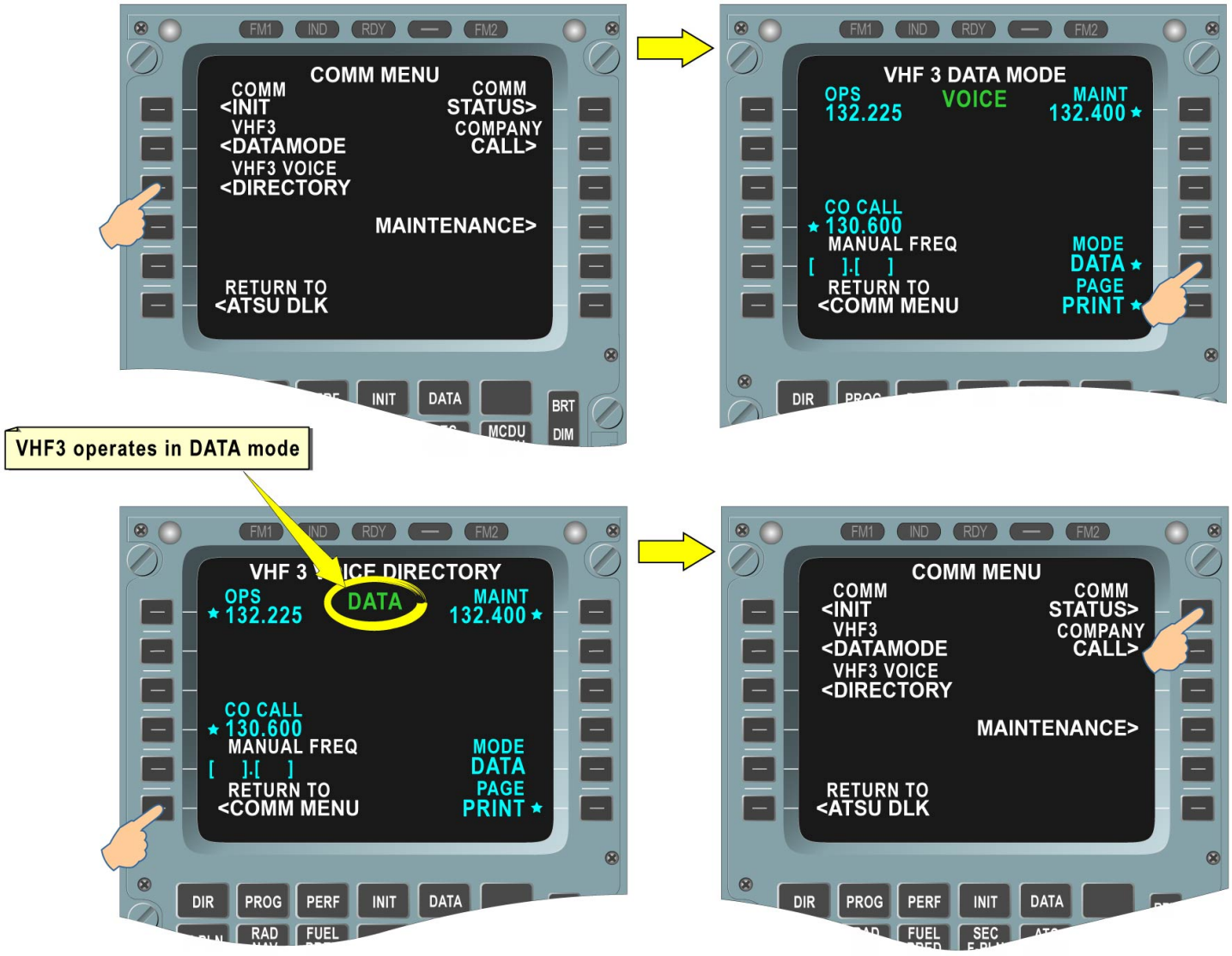

STEP-BY-STEP PROCEDURES (EXAMPLES) - OPERATIONAL TEST OF THE ATSU

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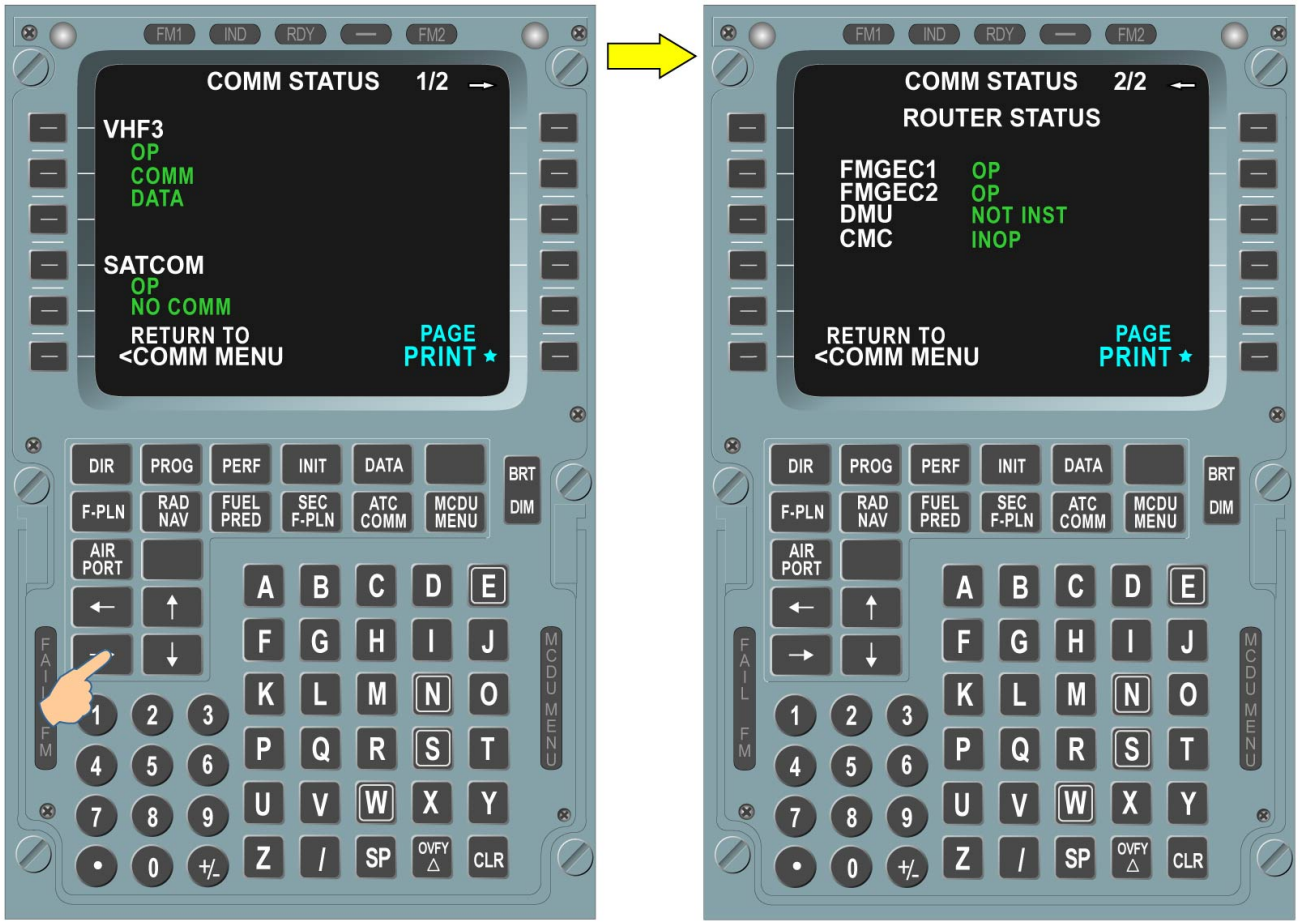


Job is completed!

STEP-BY-STEP PROCEDURES (EXAMPLES) - OPERATIONAL TEST OF THE ATSU

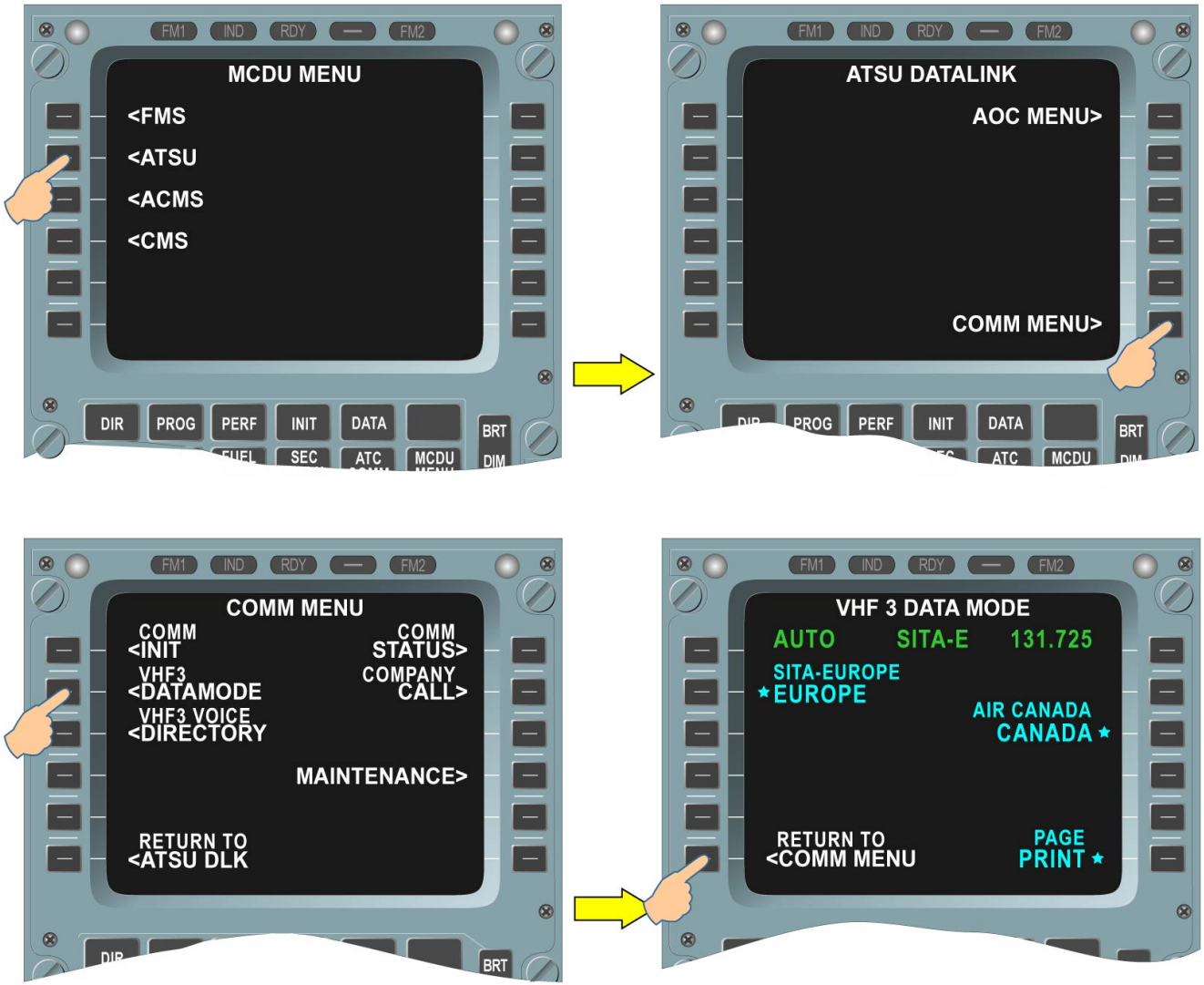
ATIMS MENU D/O (3)

STEP-BY-STEP PROCEDURES (EXAMPLES) (continued)

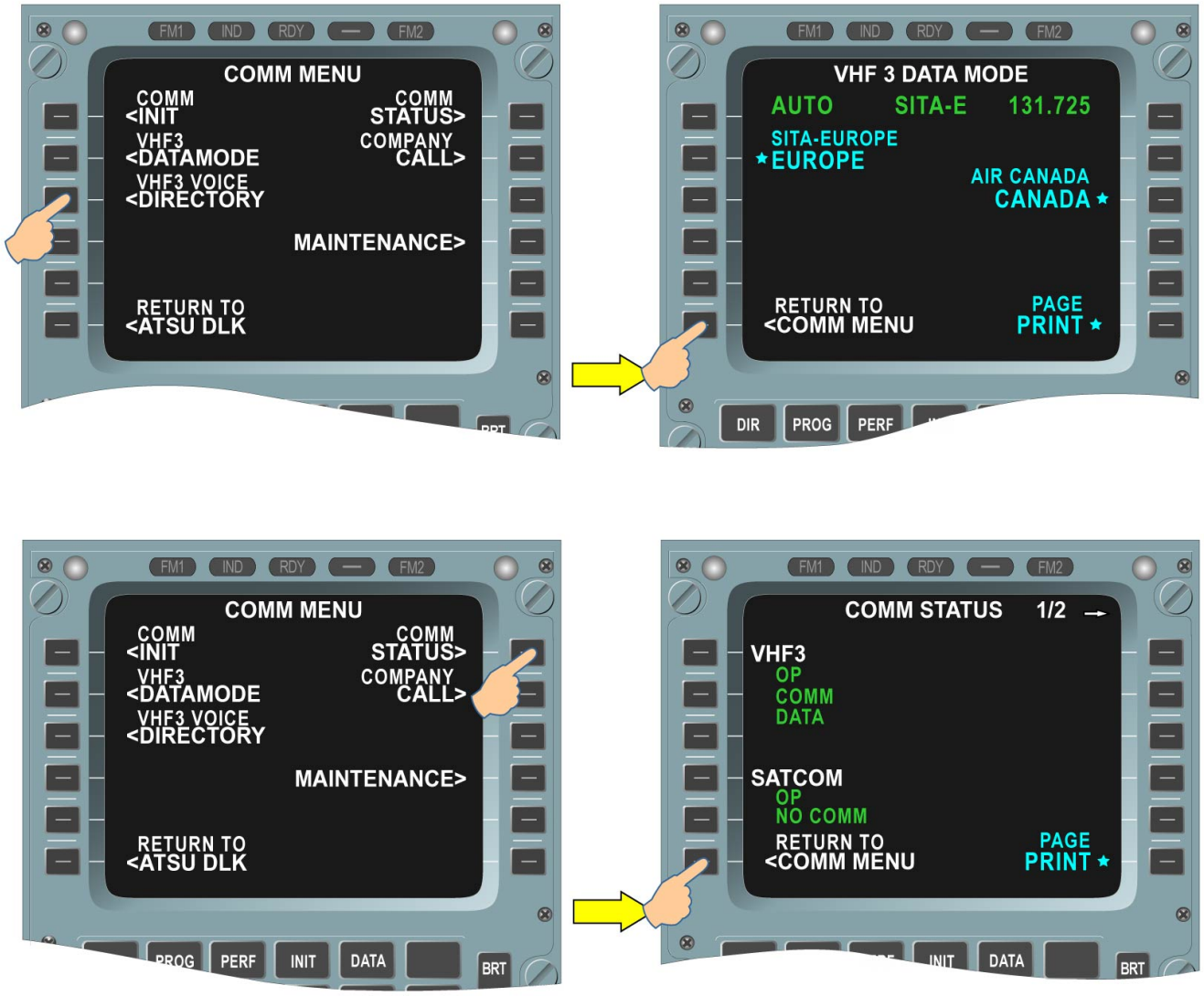
VHF3 Link test of the ATSU

This procedure, called VHF3 Link Test of the ATSU, allows checking the VHF3 link between the A/C and the ground
Push the ATSU line key: the ATSU DATALINK page is displayed.
Push the COMM MENU line key: the COMM MENU page will be displayed.
A check of the ATSU initialization is done through the VHF3 DATA MODE menu, the VHF3 VOICE DIRECTORY menu and the COMM STATUS menu.
Push the VHF3 DATA MODE line key: the VHF3 DATA MODE page is displayed.
Push the RETURN TO COMM MENU line key: the COMM MENU page will be displayed.
Push the VHF3 VOICE DIRECTORY line key: the VHF3 VOICE DIRECTORY page is displayed (Operating frequency in DATA MODE is indicated).
Push the RETURN TO COMM MENU line key: COMM MENU page will be displayed.
Push the COMM STATUS line key: COMM STATUS pages are displayed (The status of peripheral system interconnected with the ATSU is displayed).
Push the RETURN TO COMM MENU line key: the COMM MENU page will be displayed.
The link test is accessible through the MAINTENANCE menu.
Push the MAINTENANCE line key: the MAINTENANCE MENU is displayed.
Push the TEST line key: the VHF3 LINK test command will be available.
The result of this test confirms that communication link between the VHF3 and the ground is operational.
Push the REQUEST VHF3 LINK line key: the VHF3 LINK test is in progress.
The VHF3 LINK test is correct.
Push the RETURN TO MAINTENANCE line key: the MAINTENANCE page is displayed.
Push the RETURN TO COMM MENU line key: the COMM MENU will be displayed.
Push the RETURN TO ATSU DLK line key: the ATSU DATALINK page is displayed.
The VHF3 Link Test of the ATSU is done.

G9409341 - GAUT0T0 - FM46D2000000002



STEP-BY-STEP PROCEDURES (EXAMPLES) - VHF3 LINK TEST OF THE ATSU



STEP-BY-STEP PROCEDURES (EXAMPLES) - VHF3 LINK TEST OF THE ATSU

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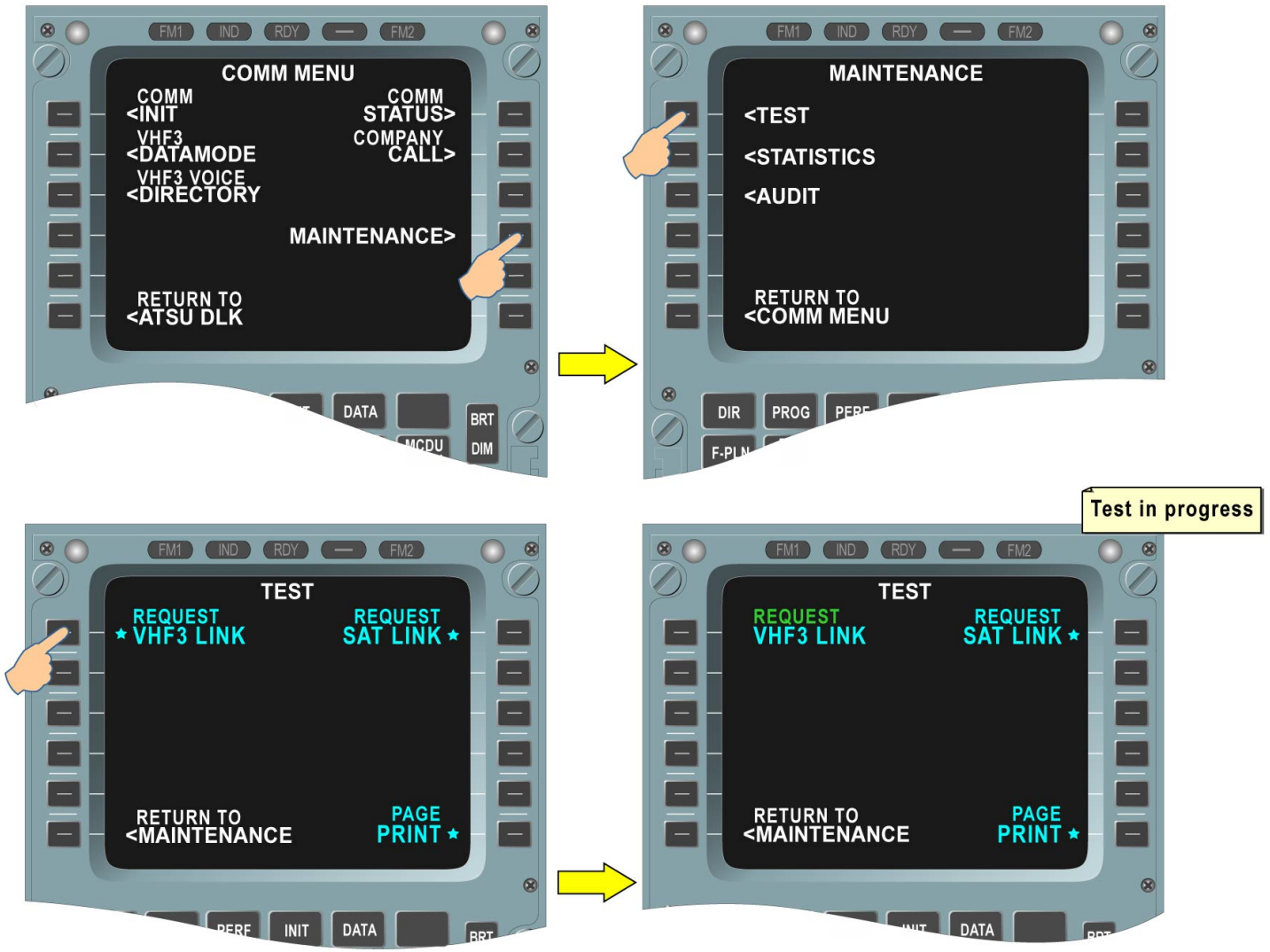

STEP-BY-STEP PROCEDURES (EXAMPLES) - VHF3 LINK TEST OF THE ATSU

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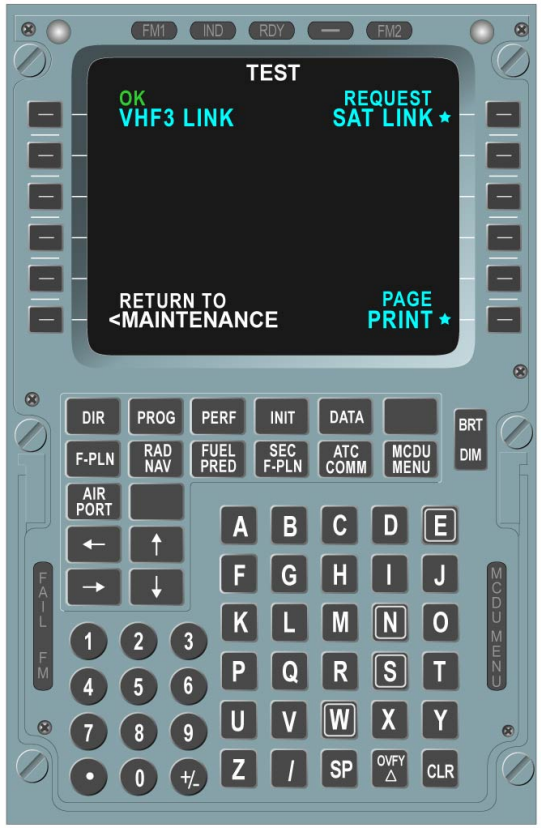

STEP-BY-STEP PROCEDURES (EXAMPLES) - VHF3 LINK TEST OF THE ATSU

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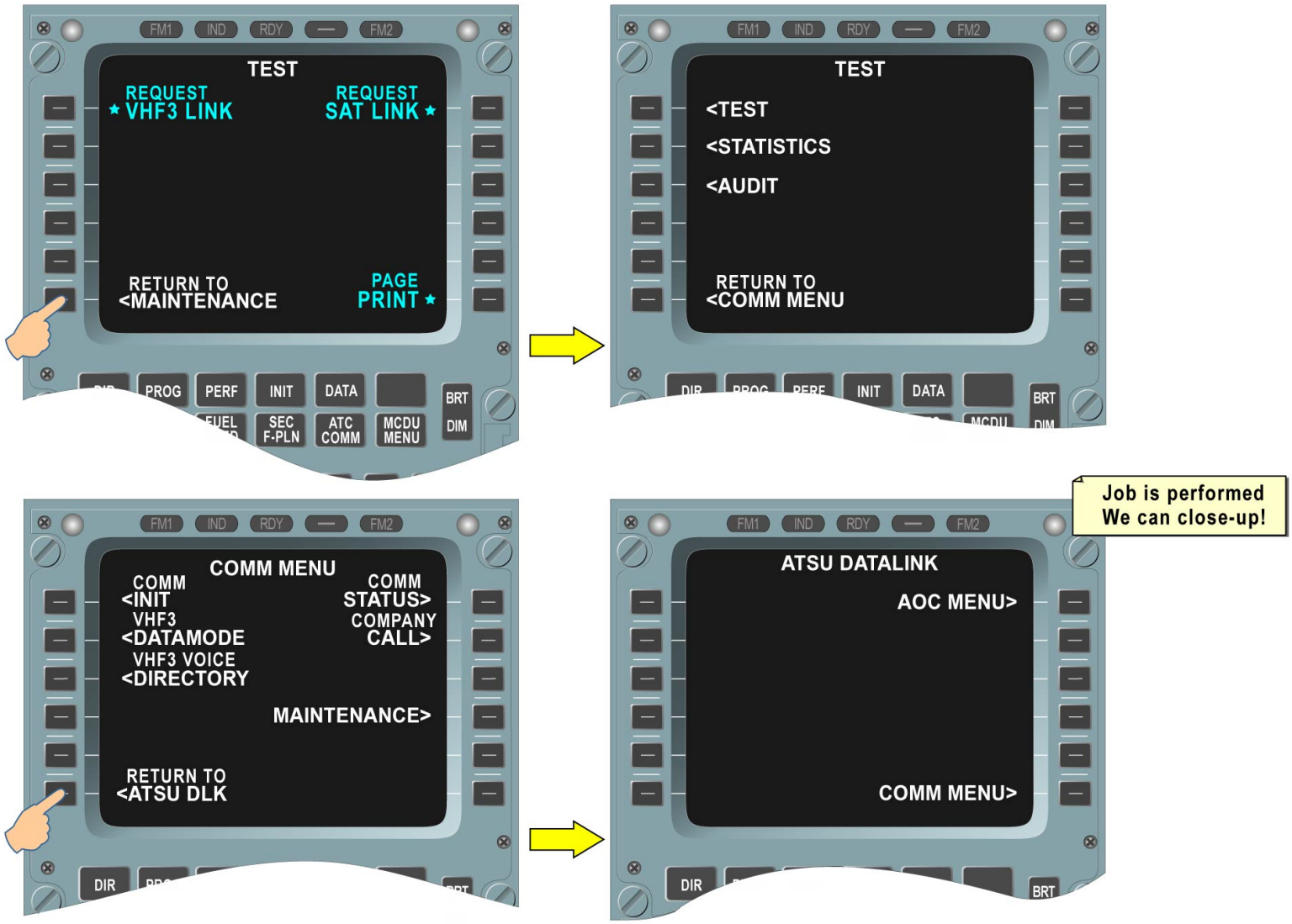

STEP-BY-STEP PROCEDURES (EXAMPLES) - VHF3 LINK TEST OF THE ATSU

G9409341 - GAUT0T0 - FM46D2000000002

INFORMATION SYSTEMS AINS D/O (3)

SYSTEM ARCHITECTURE

The host platform of the Airbus Information Network System (AINS) has three components:
- the Aircraft Network Server Unit (ANSU), which provides a powerful server and data management functions on-board the aircraft,
- the Server Interface Unit (SIU), which protects the "avionics world" systems from pollution or hacking intrusion from the "open world", and gives a security barrier between the avionics and open networks.

Additionally, the Terminal Wireless LAN Unit (TWLU) and its related antenna makes sure that wireless communications of AINS with the airport LAN (A/C on ground) operates.

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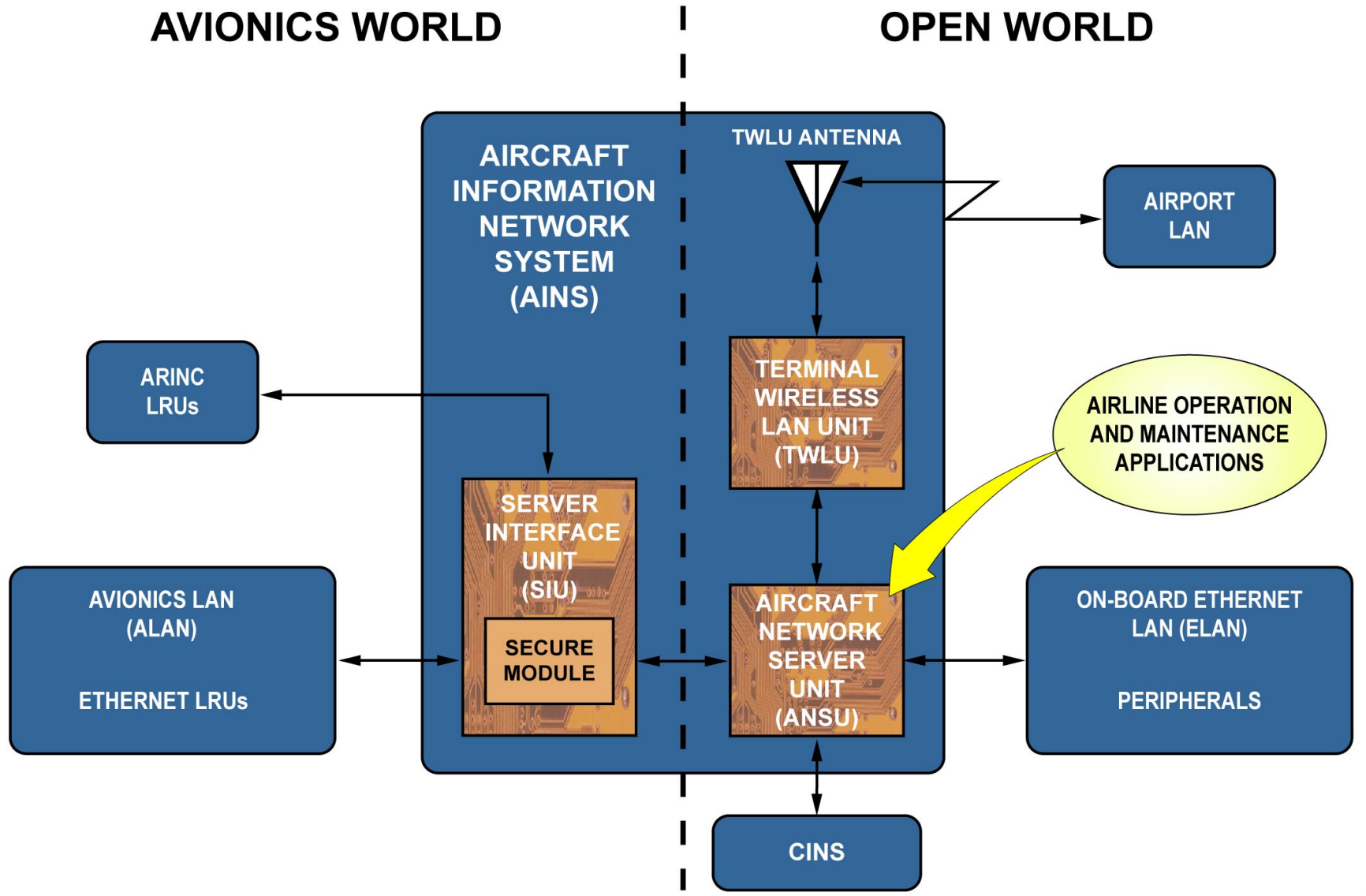

SYSTEM ARCHITECTURE

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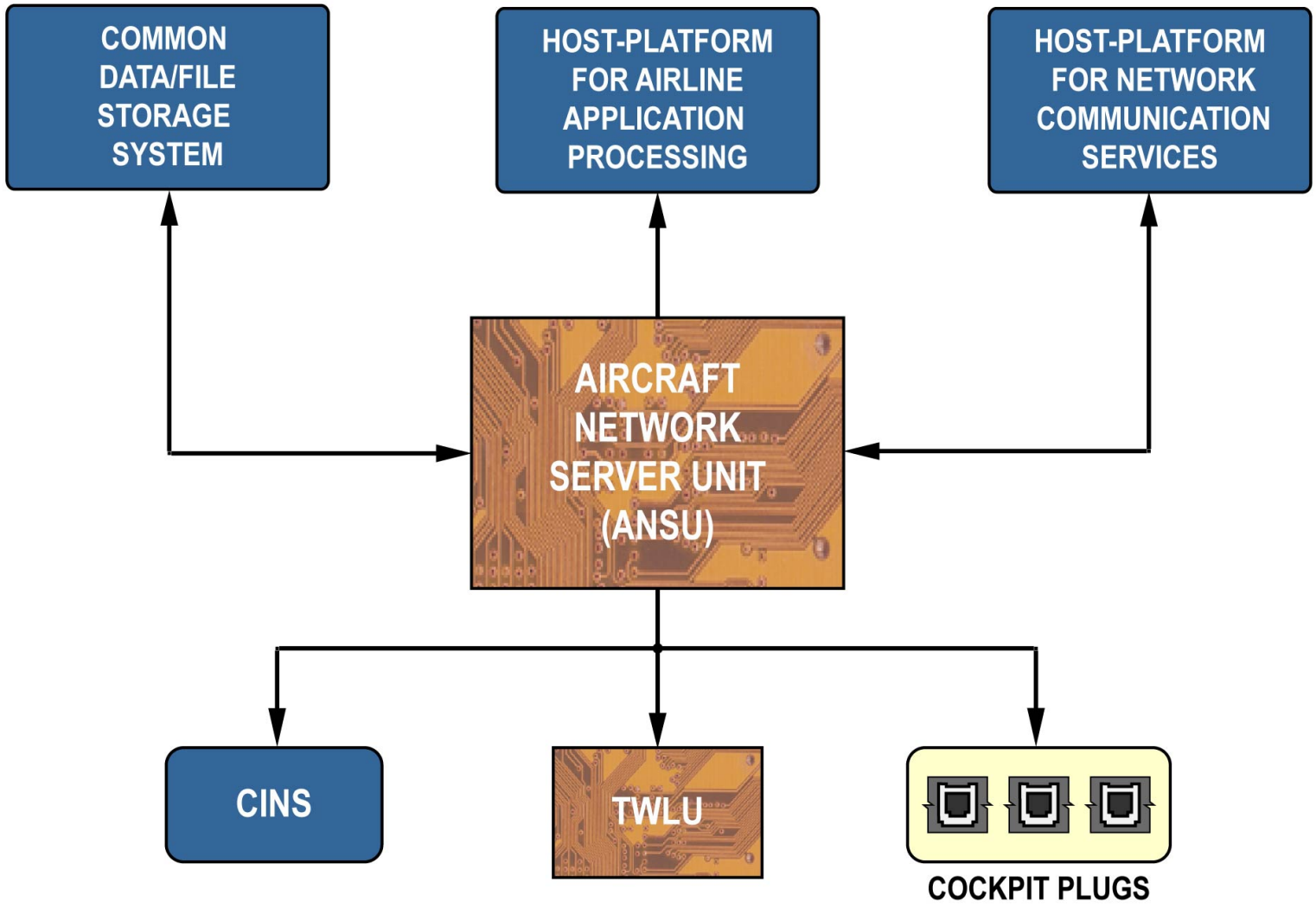
INFORMATION SYSTEMS AINS D/O (3)

THE ANSU

The ANSU gives a common data/file storage system, a host-platform for airline application processing and network communication services. The ANSU is an open world data server, which manages the Ethernet LAN (ELAN) network by means of an Ethernet switch and enables communication between the "open world" and the "avionics world". Its main function is to host airline applications on-board the aircraft while providing also significant mass storage capability for loadable software and other applications.
The ANSU is interfaced with the TWLU for ground network connection, with the Cabin Information Network System (CINS), with three cockpit plugs, two for connection of a laptop and one for connection of a maintenance laptop and a printer.

G9409341 - GAUT0T0 - FM46D3000000001



THE ANSU

G9409341 - GAUT0T0 - FM46D3000000001

INFORMATION SYSTEMS AINS D/O (3)

THE SIU

The function of the SIU is to supply an interface between the open world and the avionics world, to host "sensitive" applications and to accommodate an Ethernet switch.
The SIU supports the following functions:
- Avionics LAN (ALAN); an Ethernet switch which gives the connection to Ethernet LRUs,
- Input/Output (I/O) with the avionics; an I/O module locks on, transmits labels, etc. This I/O is done through a direct interface,
- Avionics Software Protection Module; as the system supplies interface with the avionics, it makes sure that avionics will be isolated from the open world, protecting it from degradation and corruption. The protection module therefore controls every input to the avionics and allows throughput only if the data meet conditions defined in loadable database. It is the core of the AINS safety policy to make sure that the AINS embedded applications cannot interfere with the aircraft functions.
- the core software,
- the loadable database (filtering table database).

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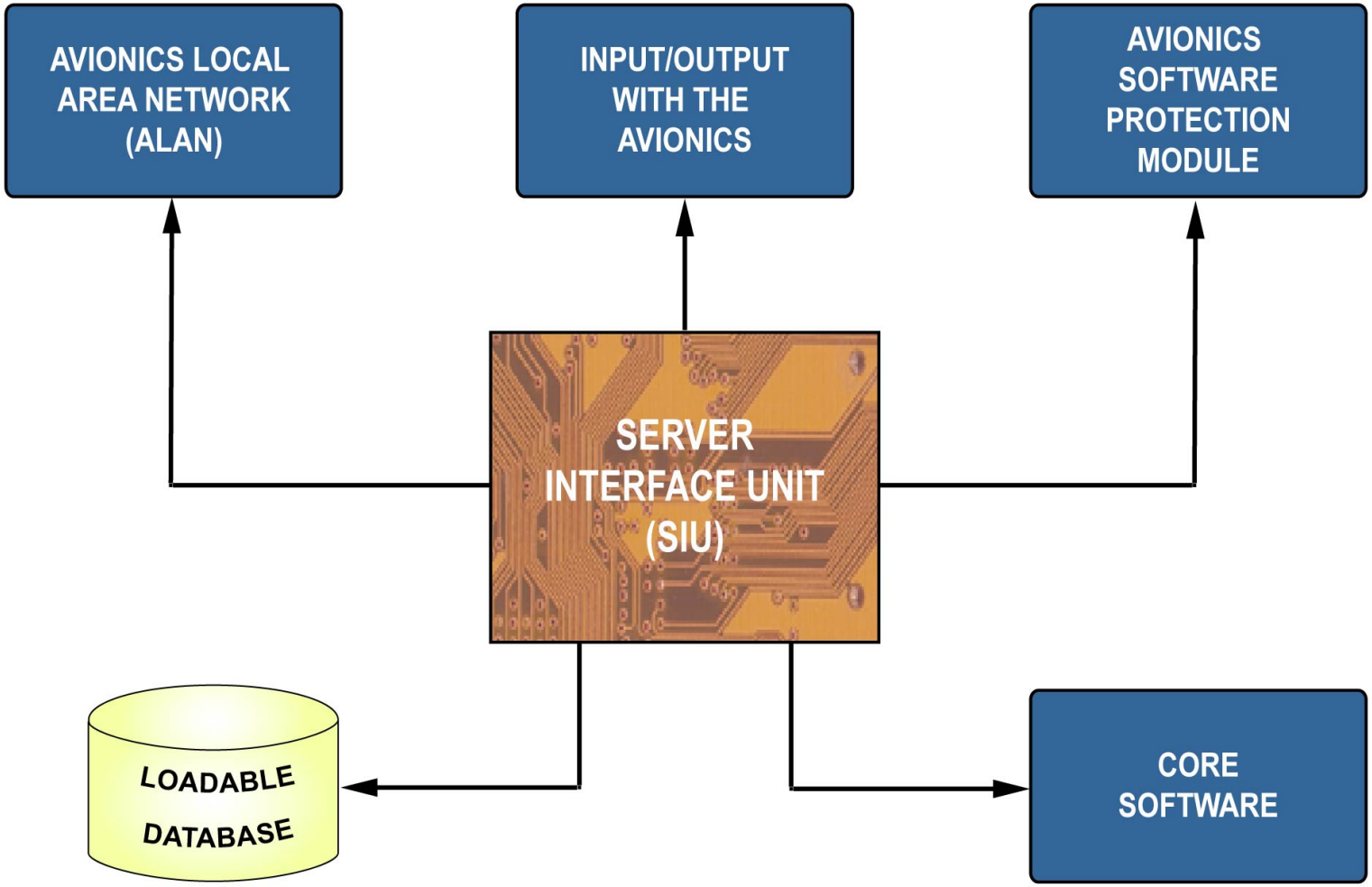


THE SIU

G9409341 - GAUT0T0 - FM46D3000000001

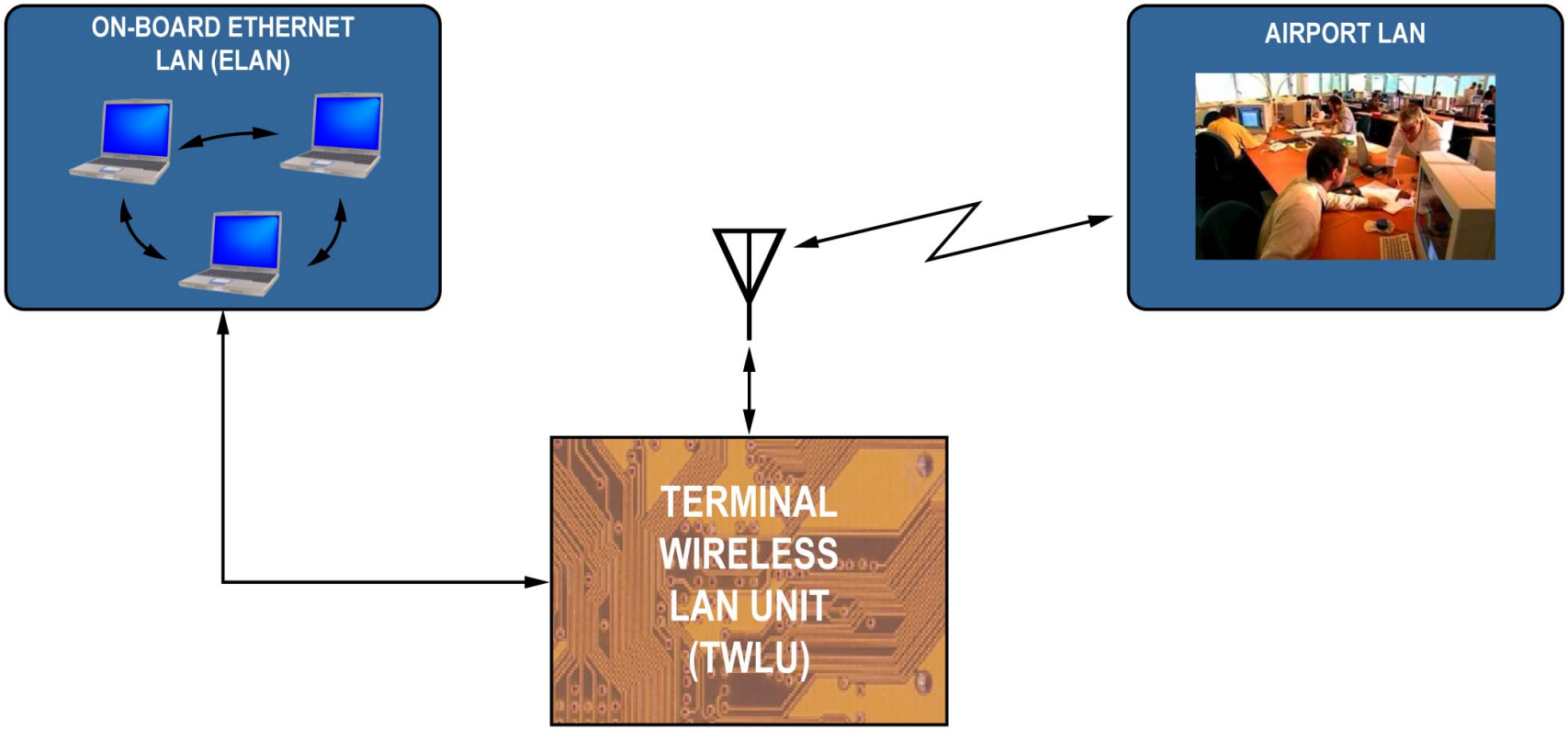
INFORMATION SYSTEMS AINS D/O (3)

THE TWLU

The TWLU is used to bridge a connection between the on-board ELAN and the airport LAN. The TWLU bridges these two networks using a wireless RF spread spectrum link.
The TWLU supports the following functions:
- operation independent of LAN protocols,
- typical network functions, such as file server access from aircraft terminals, terminal emulation sessions to ground-based host, providing file transfer capability and internet access.

The function of the TWLU is to operate only while the aircraft is on the ground. The antenna is an omni-directional antenna coaxially connected to the TWLU.

G9409341 - GAUT0T0 - FM46D3000000001



THE TWLU

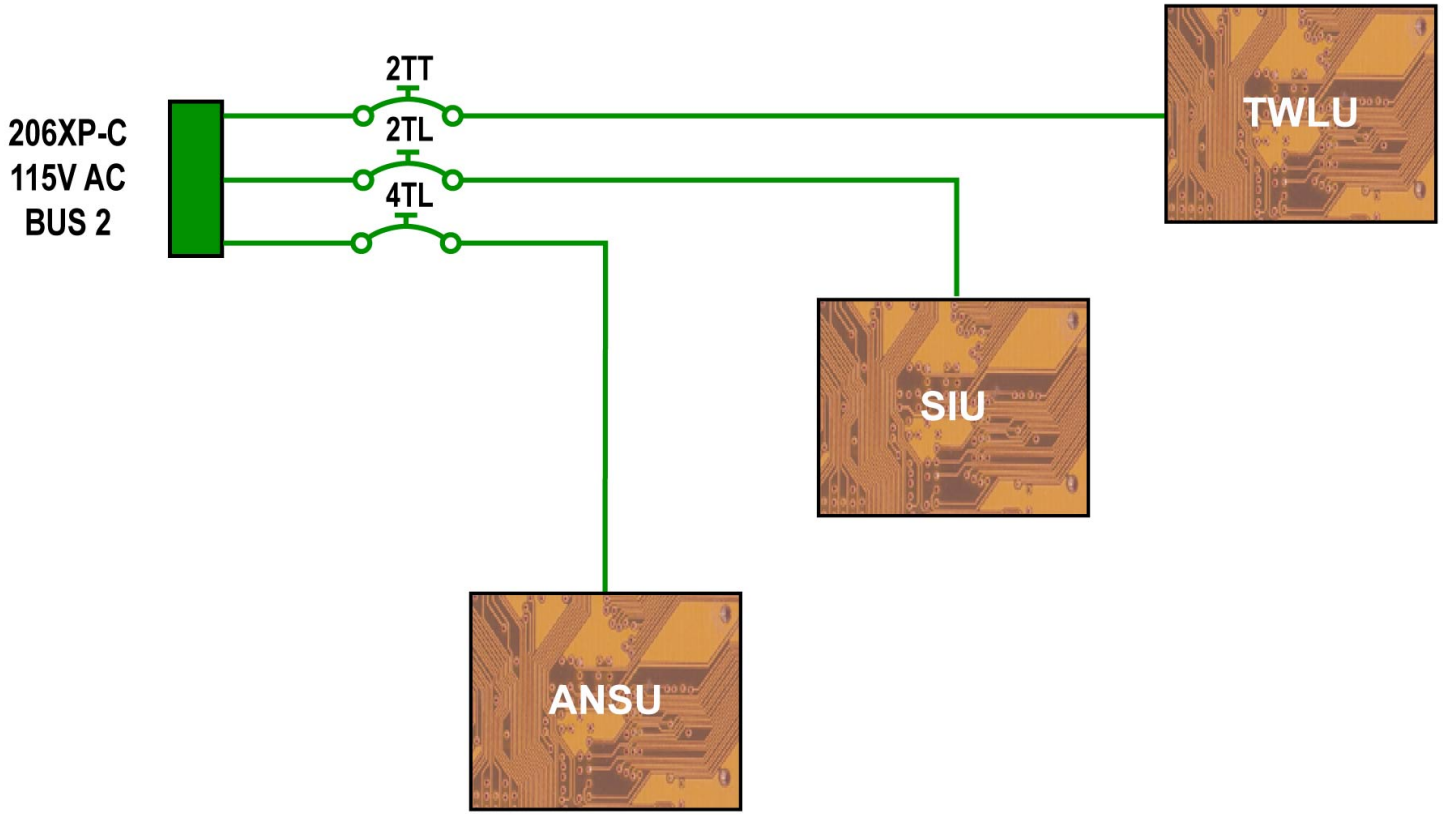
G9409341 - GAUT0T0 - FM46D3000000001

INFORMATION SYSTEMS AINS D/O (3)

POWER SUPPLY

The SIU, the ANSU and the TWLU are supplied with 115V AC from the 115V AC BUS 2 bar 206XP-C via a Circuit Breaker (C/B).

G9409341 - GAUT0T0 - FM46D3000000001



POWER SUPPLY

INFORMATION SYSTEMS AINS D/O (3)

INTERFACES

The ANSU uses high speed data transfer and is connected to the outside world via 8 ports. These ports are used to connect the ANSU to wired peripherals:
- cockpit CAPT plug,
- cockpit F/O plug,
- cockpit PC and printer plug.

The ANSU also supplies interface with the SIU, the TWLU and the CINS.
The SIU is the only LRU of the Flight Smart with Airbus (FSA) system connected to the Central Maintenance Computer (CMC). Then the SIU is directly connected to the MCDU 3 and the printer.

NOTE: If the SIU is removed (e.g for maintenance purpose), the MCDU 3 and the printer connections with the CMC are lost as they are switched internally in the SIU.

A coaxial cable connects the TWLU to the antenna.
The SIU acquires two discrete signals from the TWLU and sends three discrete signals to the TWLU:
- Frequency Hopping Spread Spectrum (FHSS) discrete is activated when the FHSS mode is selected and during Flight Warning Computer (FWC) phase 1, 2, 9, 10,
- Direct Sequence Spread Spectrum (DSSS) discrete is activated when the DSSS mode is selected and during FWC phase 1, 2, 9, 10,
- TWLU power discrete from the SIU powers up the TWLU.

The SIU acquires the LRU status discrete from the Cabin Wireless LAN Units (CWLU). The SIU sends two discrete signals to the CINS CWLUs:
- FHSS is activated during FWC phase 1, 2, 6, 9, and 10,
- DSSS is activated during FWC phase 1, 2, 6, 9, and 10.

The SIU acquires:
- a weight on wheel discrete signal from the Landing Gear Control and Interface Unit (LGCIU),
- three discrete from the Data Loading Routing Box (DLRB),
- four Digital ACMS Recorder (DAR) speed control discrete from the Flight Data Interface and Management Unit (FDIMU),
- one hardware pin programming to determinate A/C family.

The SIU supplies ARINC 429 interface with the avionics LRUs to support data loading ARINC 615-3. These links give a connection between the SIU and Display Management Computers (DMC)(3), FWC 2, System Data Acquisition Concentrator (SDAC) 2, Flight Management Guidance and Envelope Computers (FMGECs), Air Data/Inertial Reference System (ADIRU) 2, and the Air Traffic Service Unit (ATSU). The SIU gives the following ARINC 429 output data to a test plug located in the electronics rack on 800VU. The SIU supplies one ARINC 717 input from the Aircraft Condition Monitoring System (ACMS) for wireless DAR data acquisition.
The SIU supplies ARINC 429 interface in order to support future ARINC 615-3 data loading applications.
The AINS reset switch, located on the 262VU panel, restarts the SIU and the ANSU simultaneously. After the software reset, it is necessary to wait approximately 15 minutes before using the AINS and the CINS.

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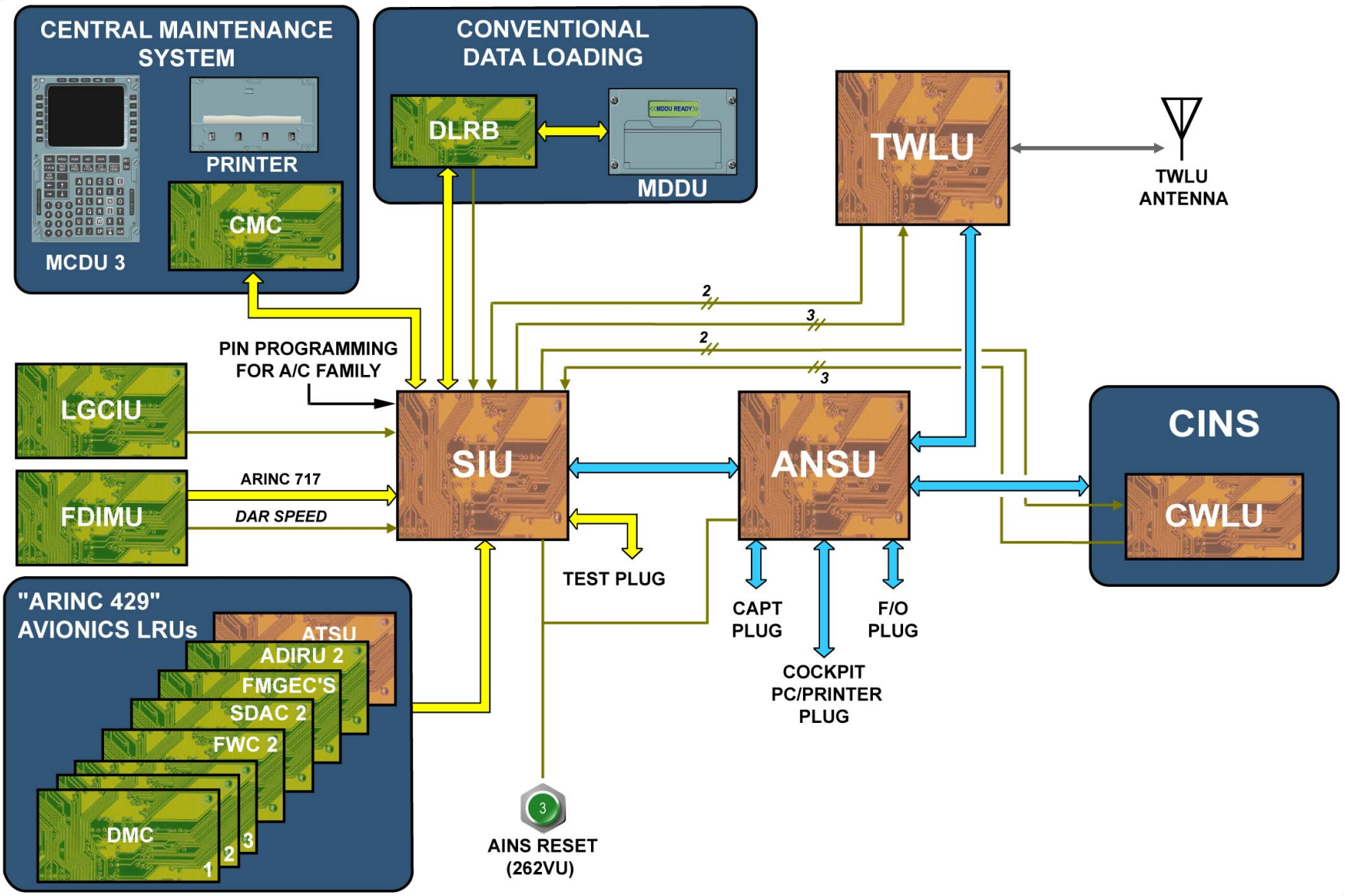

INTERFACES

G9409341 - GAUT0T0 - FM46D3000000001

INFORMATION SYSTEMS CINS D/O (3)

SYSTEM ARCHITECTURE

The Cabin Information Network System (CINS) has the following subsystems:
- the Cabin Network Service Unit (CNSU), which gives the system processing, data/file storage and network communication services to devices and systems. The CNSU is dedicated to cabin and passenger oriented, highly customized functionalities,
- the Ethernet Switch Unit (ESU), which connects the wired network between the connected systems,
- the Cabin Wireless LAN (CWL) system, which is made of two components; the Cabin Wireless LAN Unit (CWLU) and the antenna. The CWLU gives a wireless network connection between devices within the aircraft structure and those connected to the wired Ethernet Local Area Network (ELAN).

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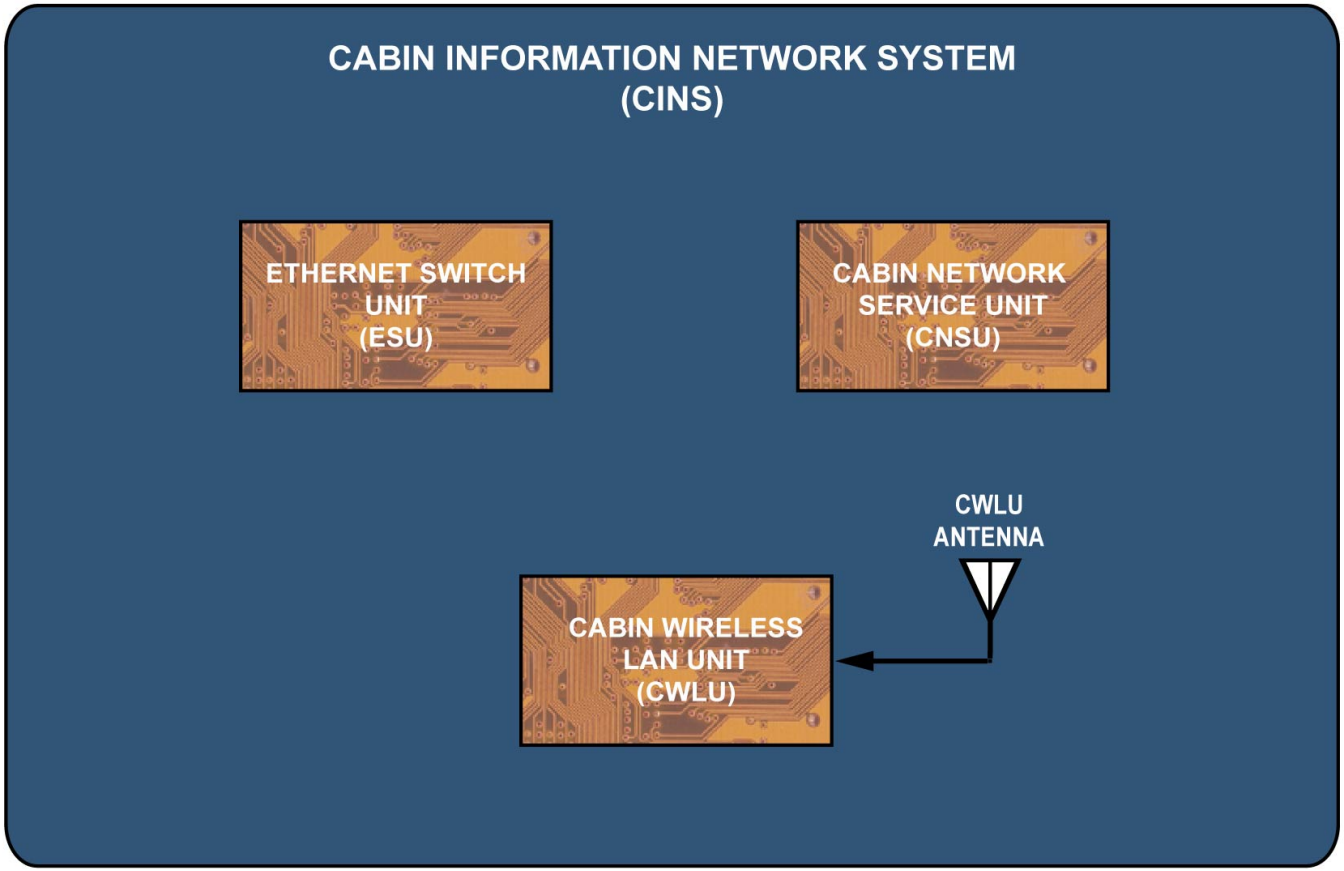

SYSTEM ARCHITECTURE

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INFORMATION SYSTEMS CINS D/O (3)

THE CNSU

The CNSU gives data processing and computing resources, data/file storage and network communication services to devices and systems. The CNSU hosts a variety of software applications. As a computing platform onboard the aircraft, it supplies high-speed communication and data exchange via wired and wireless Local Area Network (LAN).

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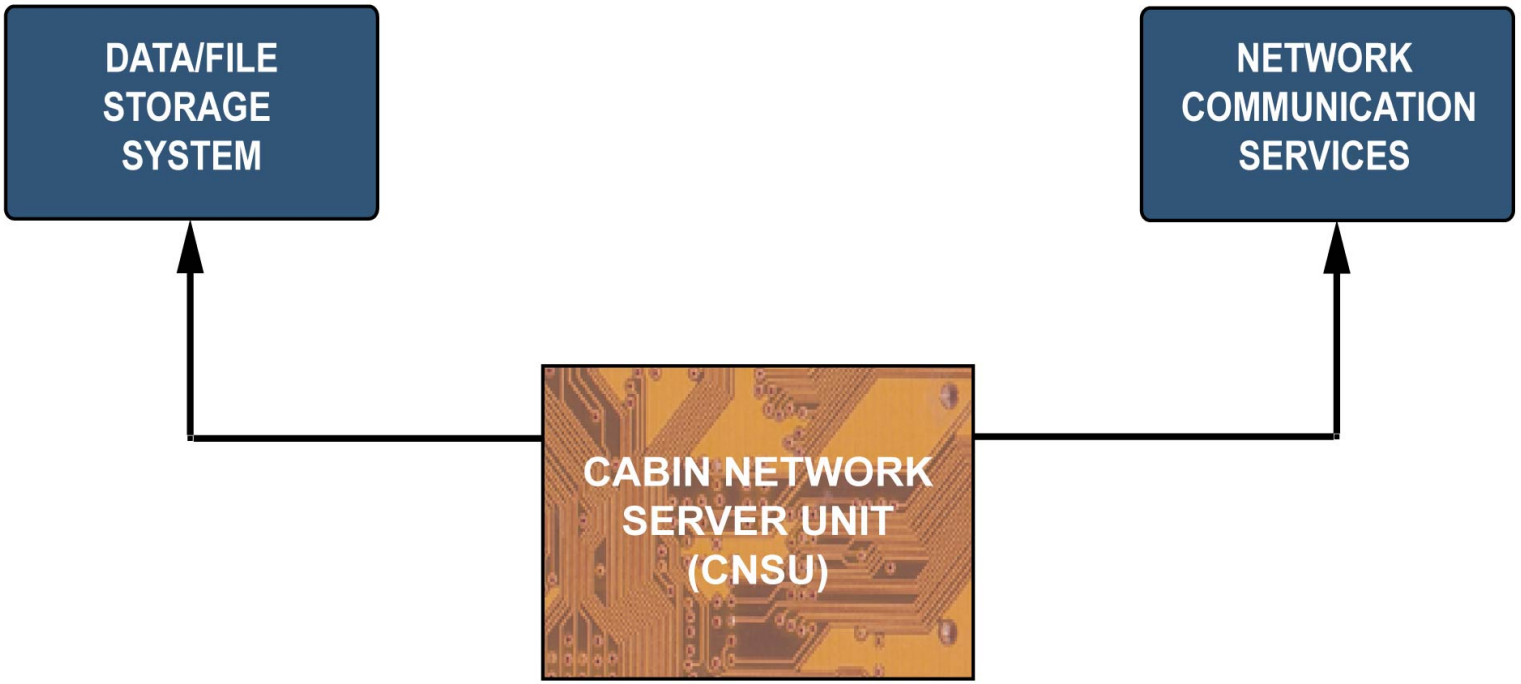

THE CNSU

G9409341 - GAUT0T0 - FM46D4000000001

INFORMATION SYSTEMS CINS D/O (3)

THE ESU

The ESU is the part of the CINS that controls the interfaces between the CINS and the systems and devices that are connected to the cabin Ethernet. Several ESUs may be installed in an aircraft for the connection of systems or devices based on Ethernet.

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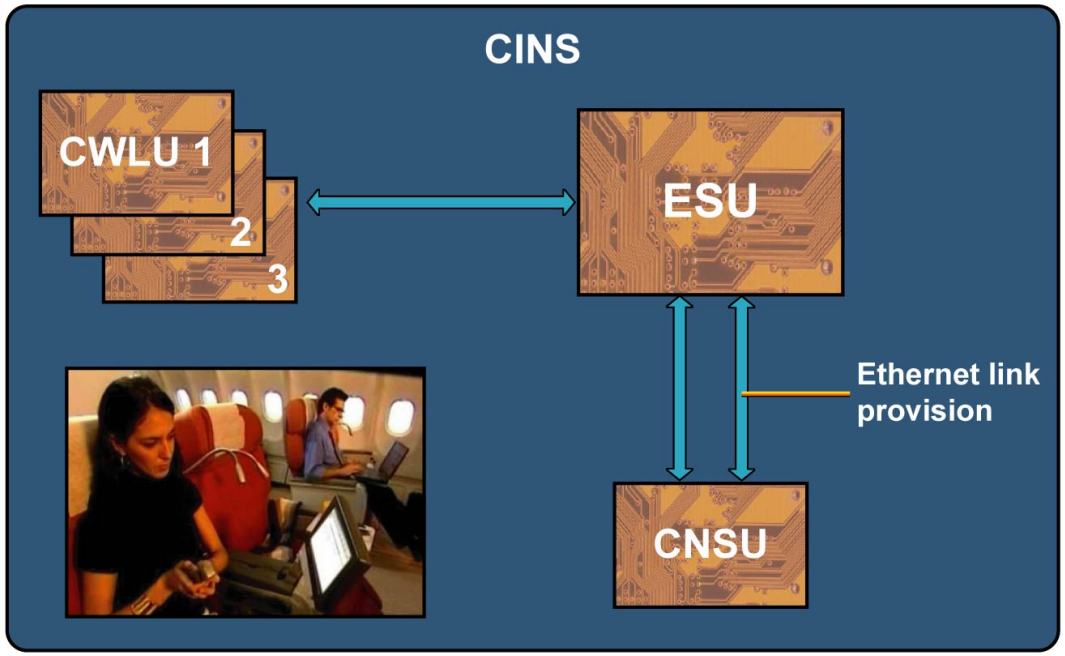


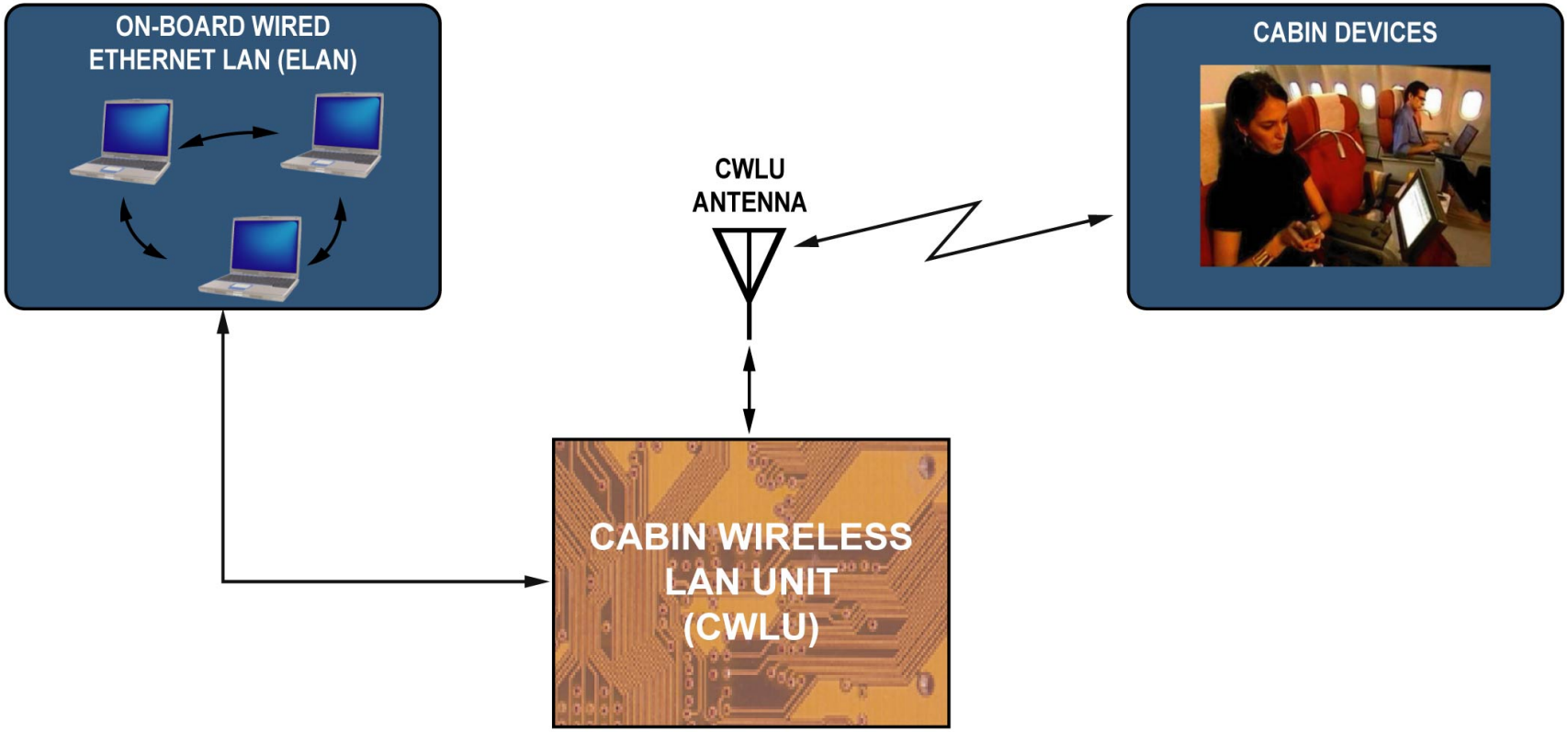
THE ESU

INFORMATION SYSTEMS CINS D/O (3)

THE CWLU

The CWLU is designed to give the wireless network connectivity between computing devices within the aircraft and those connected to the wired ELAN. According to ARINC 763, the CWLU includes the cabin wireless LAN and one or more separated aircraft mounted antenna(s).

G9409341 - GAUT0T0 - FM46D4000000001


ON-BOARD WIRED
ETHERNET LAN (ELAN)
CWLU
ANTENNA
CABIN DEVICES
CABIN WIRELESS
LAN UNIT
(CWLU)

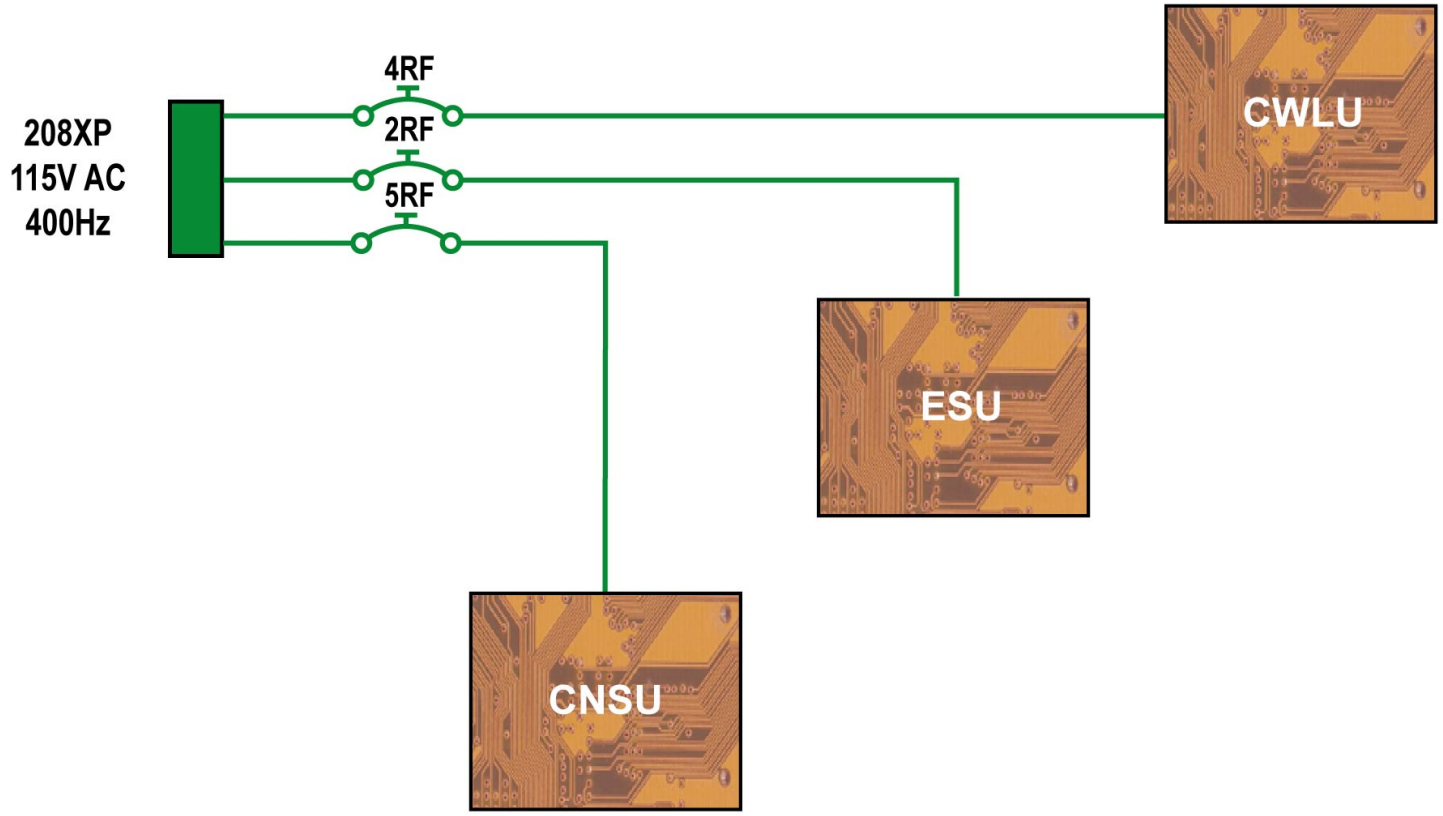
THE CWLU

INFORMATION SYSTEMS CINS D/O (3)

POWER SUPPLY

The CNSU, the ESU and the CWLU are supplied with 115V AC/400Hz from the busbar 208XP via a Circuit Beaker.

G9409341 - GAUT0T0 - FM46D4000000001



POWER SUPPLY

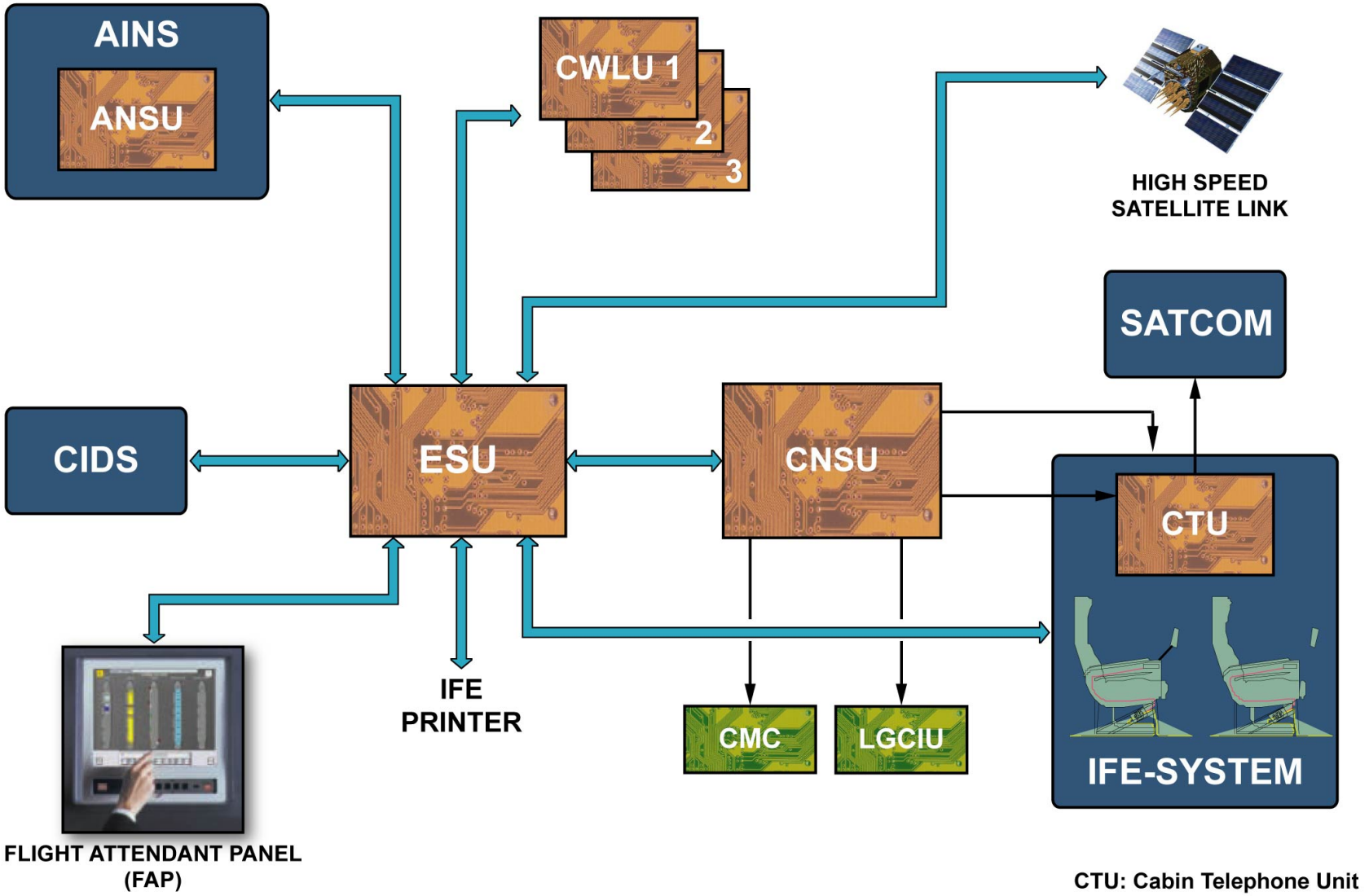
INFORMATION SYSTEMS CINS D/O (3)

INTERFACES

The CINS has interfaces with the:
- Aircraft Information Network System (AINS),
- Flight Attendant Panel (FAP),
- In-Flight Entertainment (IFE) system,
- Cabin Telephone Unit (CTU),
- Satellite Communication (SATCOM) system,
- Landing Gear Control and Interface Unit (LGCIU),
- Central Maintenance Computer (CMC).

The CWLU is connected to the ESU via a 10 BaseT full duplex Ethernet link. The CNSU is connected to the ESU via two 10/100 BaseT full duplex Ethernet links. One connected and one backup. The ESU has eight 10/100 BaseT full duplex ports, and a 10/100 BaseT full duplex port for the cabin connector. A coaxial link connects the CWLU to the antenna.

G9409341 - GAUT0T0 - FM46D4000000001



INTERFACES

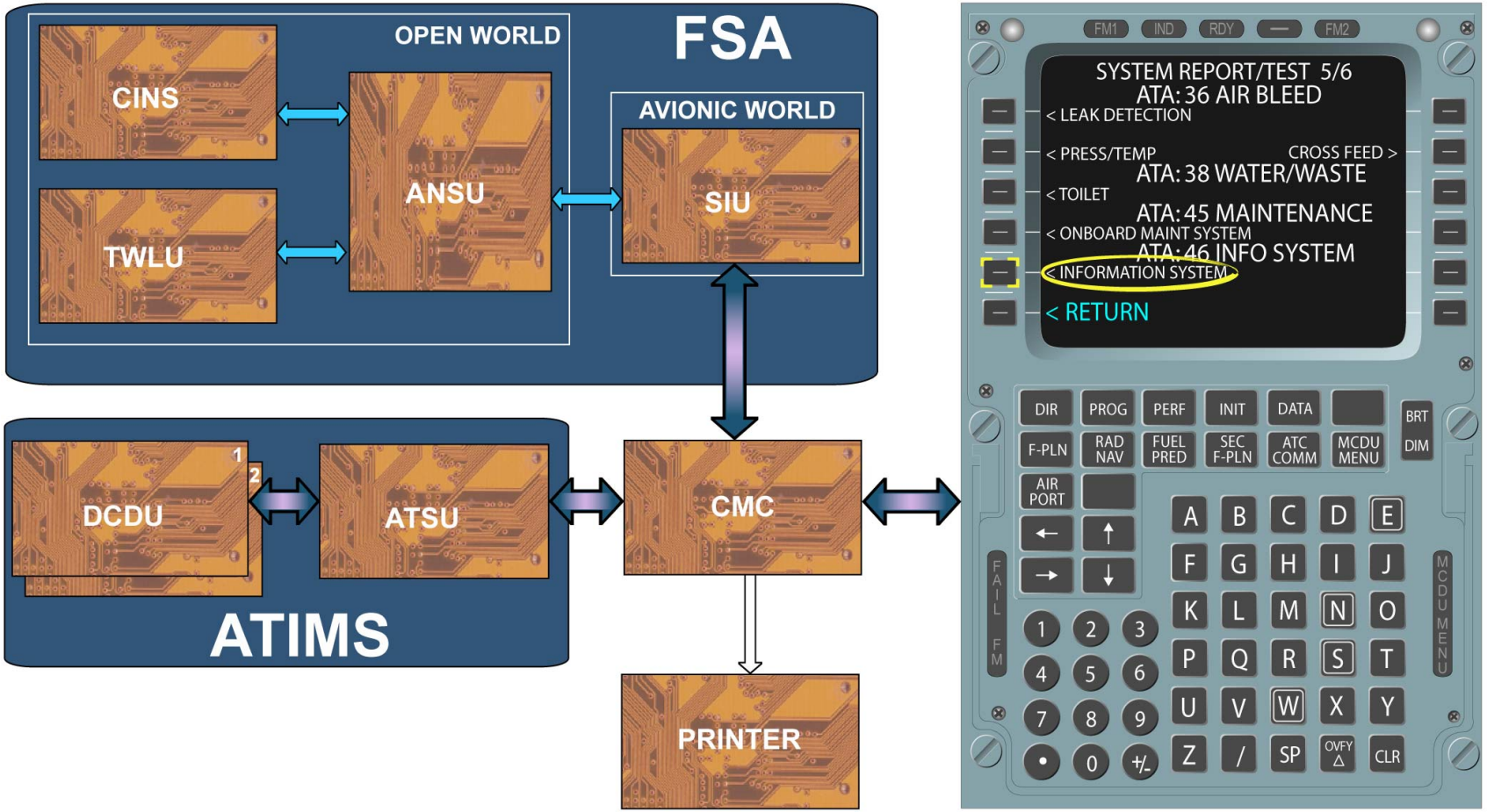
G9409341 - GAUT0T0 - FM46D4000000001

INFORMATION SYSTEMS MCDU PAGES (2)

GENERAL

The Air Traffic and Information Management System (ATIMS) maintenance menu is accessible using the INFORMATION SYSTEM prompt from the SYSTEM REPORT/TEST. The ATIMS BITE concentrates the failure information provided by the Air Traffic Service Unit (ATSU) and the Datalink Control and Display Unit (DCDU) internal monitoring. The ATIMS BITE information and test requests are transmitted to the Central Maintenance Computer (CMC) and available through MCDU menus.
The Aircraft Network Service Unit (ANSU) acts as a failure concentrator for the FlySmart with Airbus (FSA), Open World. The Server Interface Unit (SIU) acts as a failure concentrator for both Avionics World and Open World from the ANSU. The SIU collects failures detected, retrieves synthetic failures from the Open World through the ANSU and reports them to the CMC, which sends them to the MCDU in order to be displayed.

G9409341 - GAUT0T0 - FM46P2MCDUTST02


OPEN WORLD
FSA
CINS
TWLU
ANSU
AVIONIC WORLD
SIU
DCDU
1
2
ATSU
ATIMS
CMC
PRINTER
FM1
IND
RDY
FM2
SYSTEM REPORT/TEST 5/6
ATA:36 AIR BLEED
< LEAK DETECTION
< PRESS/TEMP
CROSS FEED >
ATA:38 WATER/WASTE
< TOILET
ATA:45 MAINTENANCE
< ONBOARD MAINT SYSTEM
ATA:46 INFO SYSTEM
< INFORMATION SYSTEM
< RETURN
DIR
PROG
PERF
INIT
DATA
BRT
DIM
F-PLN
RAD NAV
FUEL PRED
SEC F-PLN
ATC COMM
MCDU MENU
AIR PORT
FAIL FM
MCDU MENU
A B C D E
F G H I J
K L M N O
P Q R S T
U V W X Y
Z / SP OVFY CLR
1 2 3
4 5 6
7 8 9
• 0 +/-

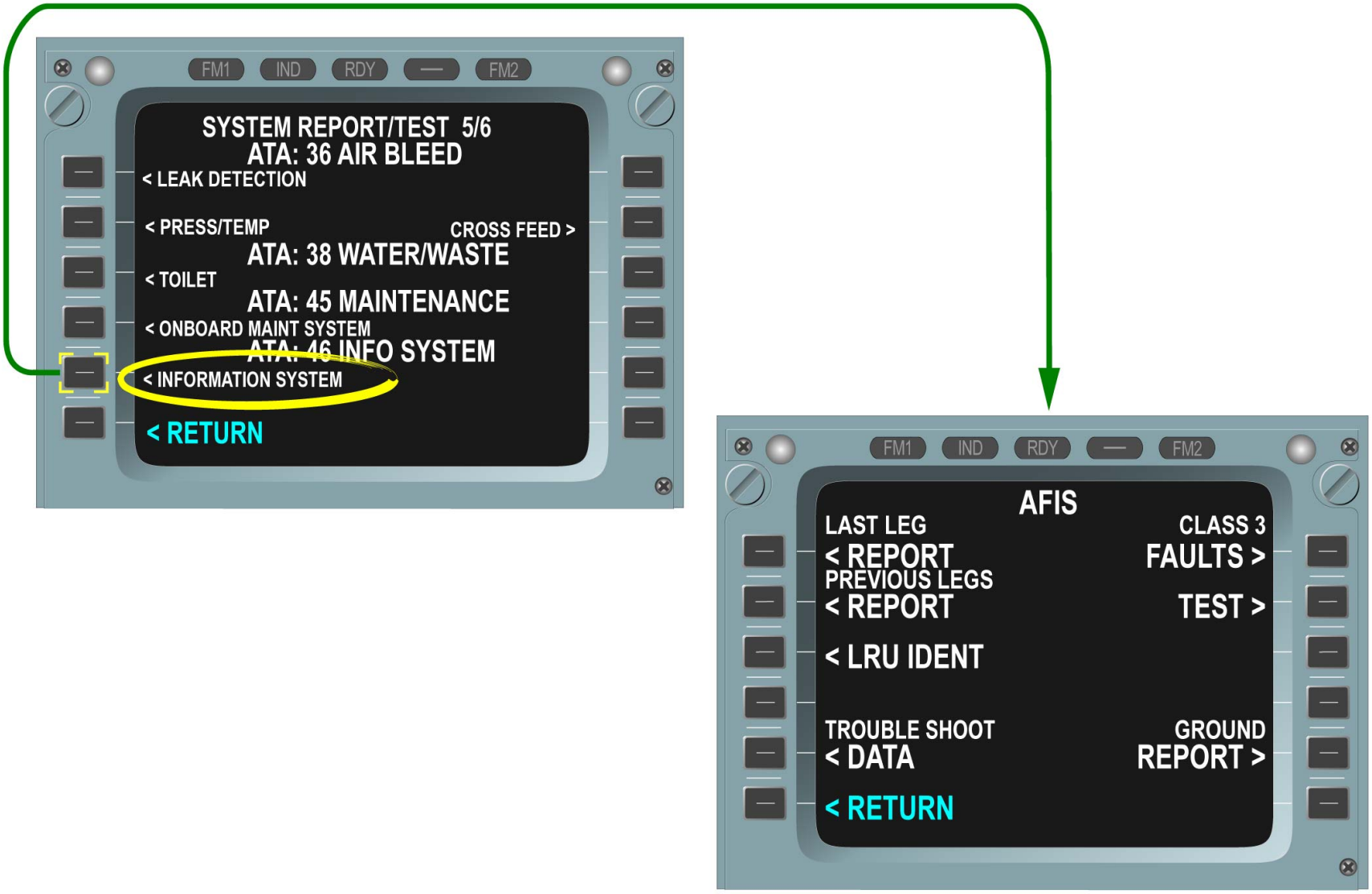
GENERAL

INFORMATION SYSTEMS MCDU PAGES (2)

AFIS MCDU PAGES

The AFIS BITE can be interrogated for failure report display and testing by selection of the ATA 46 INFO SYSTEM on the System Report/Test pages via the MCDU.
The interactive mode can only be activated on the ground. This mode enables communication between the Central Maintenance Computer (CMC) and the Airbus Information Network System (AINS) bite.
All information displayed on the MCDU during the BITE TEST configuration can be printed by the printer. Accessible from the main menu, the AINS interactive mode is composed of:
- the LAST LEG REPORT, which displays all the maintenance messages related to the Class 1 SIU and open world faults detected in flight during the last or current flight legs,
- the PREVIOUS LEGS REPORT, which displays all the maintenance messages related to the Class 1 SIU and open world faults detected in flight during the last or 63 flight legs,
- the LRU IDENT, which displays the part number, the serial number and the software number of the component,
- the TROUBLE SHOOTING DATA, which displays all the trouble shooting data related to the Class 1 SIU faults detected in flight during the last 64 flight legs including the current flight leg. The TSD related to the Class 3 faults detected in flight during the last or current flight leg are also displayed,
- the Last Leg Class 3 menu, which displays all the maintenance messages related to the Class 3 SIU and open world faults detected in flight during the last or current flight leg,
- the TEST activation shall only be allowed on the ground. The results of the test are transmitted to the CMS,
- the Ground REPORT menu, which displays all the maintenance messages related to the internal Class 1 or 3 SIU and open world faults detected on the ground during the last or current flight leg. This menu also permits access to the TROUBLE SHOOTING DATA only for SIU faults.

G9409341 - GAUT0T0 - FM46P2MCDUTST02



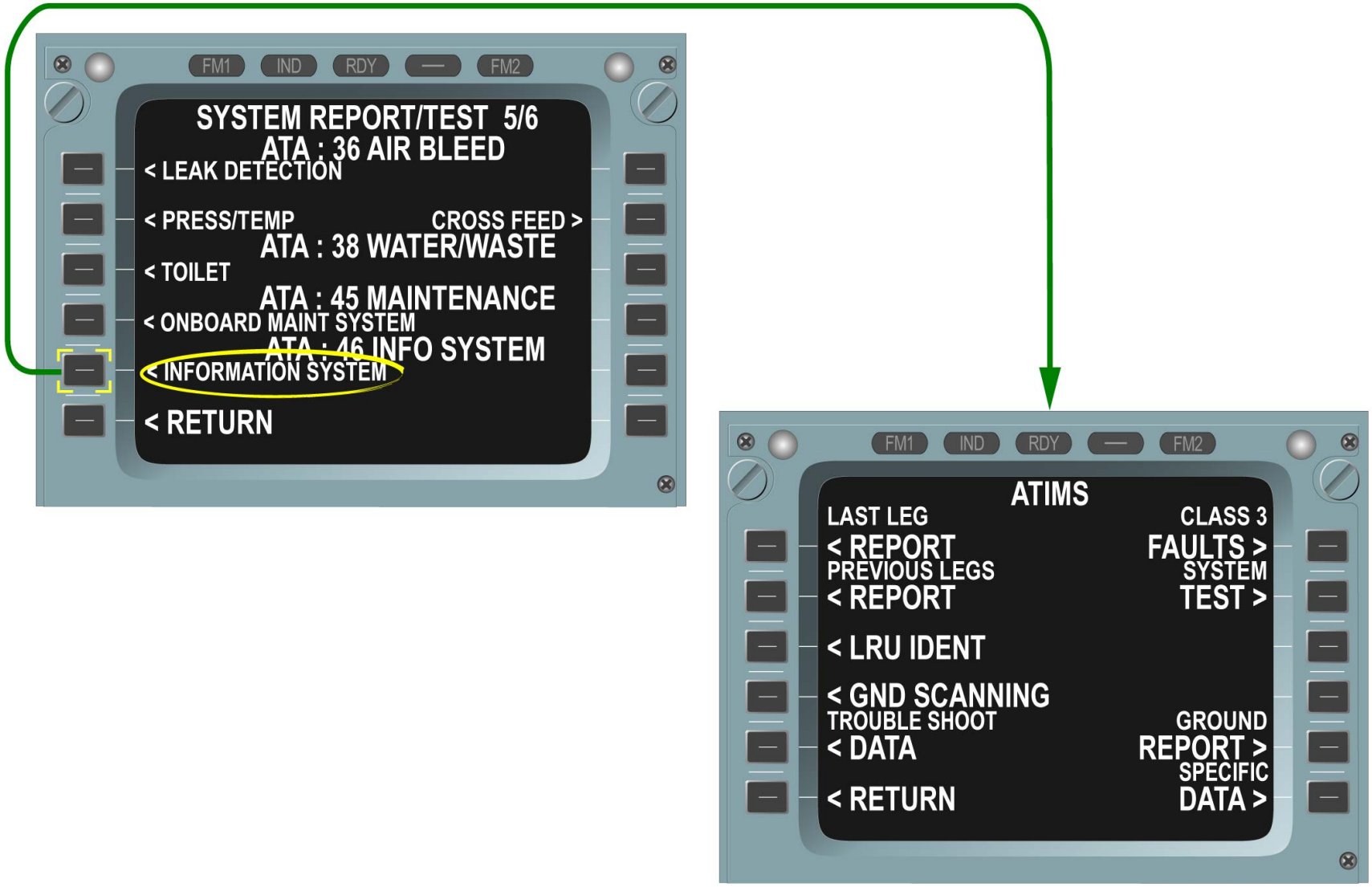
AFIS MCDU PAGES

G9409341 - GAUT0T0 - FM46P2MCDUTST02

INFORMATION SYSTEMS MCDU PAGES (2)

ATIMS MCDU PAGES

The ATIMS BITE can be interrogated for failure report display and testing by selection of the ATA 46 INFO SYSTEM on the System Report/Test pages.
The ATIMS is a Type 1 system with a BITE menu providing GND SCANNING and the following specific functions:
- the SYSTEM TEST allowing:
- DCDU self tests,
- ATSU Power on Self-Tests,
- ATSU Inputs/Outputs monitoring.
- the SPECIFIC DATA which:
- provides the status of the last upload,
- allows a check of the ATSU pin programming,
- downloads Trouble Shooting Data (TSD) via the Multipurpose Disk Drive Unit (MDDU),
- prints the list of ATSU software P/Ns.



ATIMS MCDU PAGES

G9409341 - GAUT0T0 - FM46P2MCDUTST02

INFORMATION SYSTEMS BASE MAINTENANCE (3)

UPLOADING OF THE ATSU SOFTWARE PROCEDURES

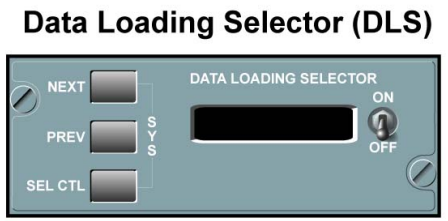
CAUTION: In order to prevent the erasure of the Air Traffic Control (ATC) and Airline Operational Control (AOC) application software and associated database you must:
- first upload the Air Traffic Service Unit (ATSU) A/C INTERFACE software if needed,
- avoid changing the AC power source,
- avoid operating the Data Loading Selector (DLS) and the Multipurpose Disk Drive Unit (MDDU), during the software uploading.

NOTE: As the ATSU Future Air Navigation System applications (FANS A) are interactive, it is recommended to upload this software in a specific order to prevent generation of BITE messages.

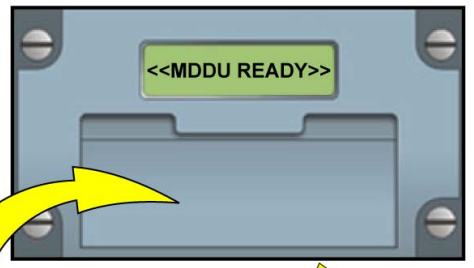
CAUTION

THE ATSU INTEGRATES SEVERAL PIECES OF SOFTWARE AND MUST BE LOADED THROUGH THE MDDU IN THE FOLLOWING ORDER:
- ATSU A/C INTERFACE SOFWARE,
- AOC SOFTWARE, THEN AOC DATABASE,
- ATSU FANS A APPLICATIONS AND UTILITIES SOFTWARE.

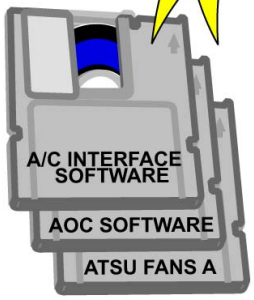
THE SOURCE OF POWER SUPPLY MUST NOT BE CHANGED DURING UPLOADING.
THE DATA LOADING SELECTOR (DLS) MUST NOT BE OPERATED DURING UPLOADING.



MCDU 100VU



The operator must perform a check of the data reference loaded in the computer from the MCDU.
This is done approximately 1 minute after the uploading procedures, to make sure that the uploaded software is operational.



UPLOADING OF THE ATSU SOFTWARE PROCEDURES

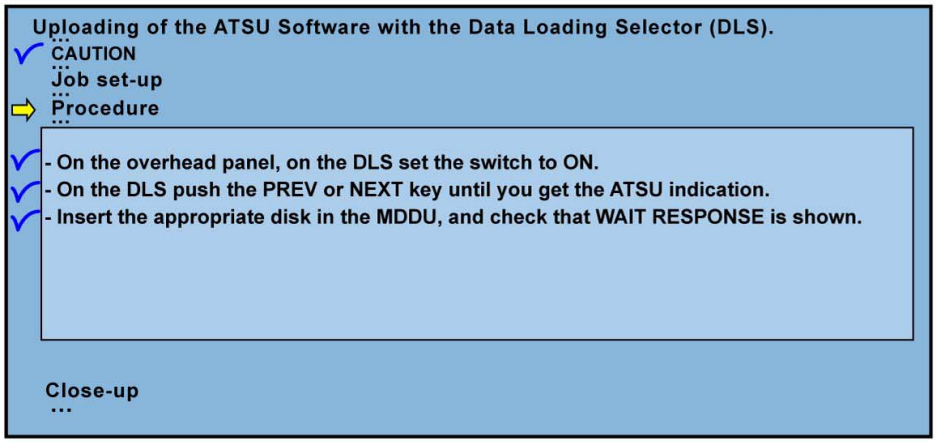
G9409341 - GAUT0T0 - FM46Y2BASEMCE02

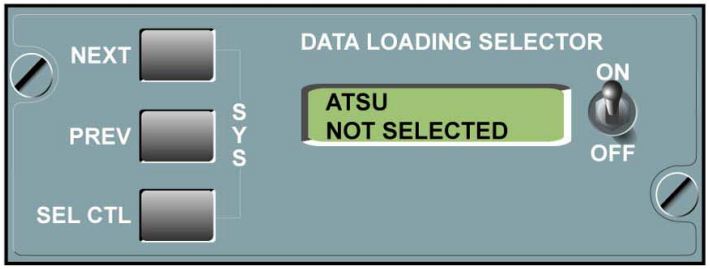
INFORMATION SYSTEMS BASE MAINTENANCE (3)

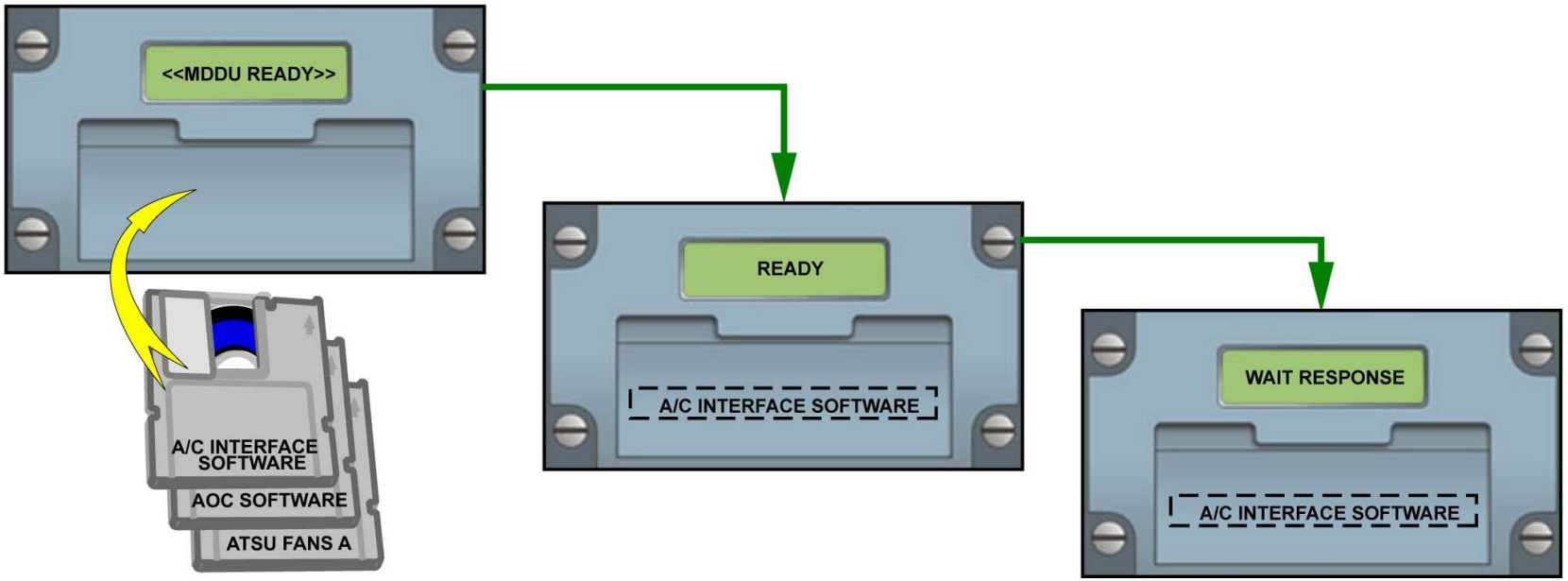
UPLOADING OF THE ATSU SOFTWARE PROCEDURES (continued)

UPLOADING PREPARATION OF THE ATSU SOFTWARE WITH THE DLS

To upload the ATSU software with DLS, follow the procedure. Check that the MDDU is ready and switch the DLS ON. Then validate the task.
Check that the DLS is in standby mode and follow the procedure. Check that the ATSU is not selected on the DLS. Then validate the task.
Follow the procedure, as soon as the appropriate disk is inserted in the MDDU, the READY message, then the WAIT RESPONSE message are shown. Then validate the task.


Uploading of the ATSU Software with the Data Loading Selector (DLS).
CAUTION
Job set-up
Procedure
- On the overhead panel, on the DLS set the switch to ON.
- On the DLS push the PREV or NEXT key until you get the ATSU indication.
- Insert the appropriate disk in the MDDU, and check that WAIT RESPONSE is shown.
Close-up





UPLOADING OF THE ATSU SOFTWARE PROCEDURES - UPLOADING PREPARATION OF THE ATSU SOFTWARE WITH THE DLS

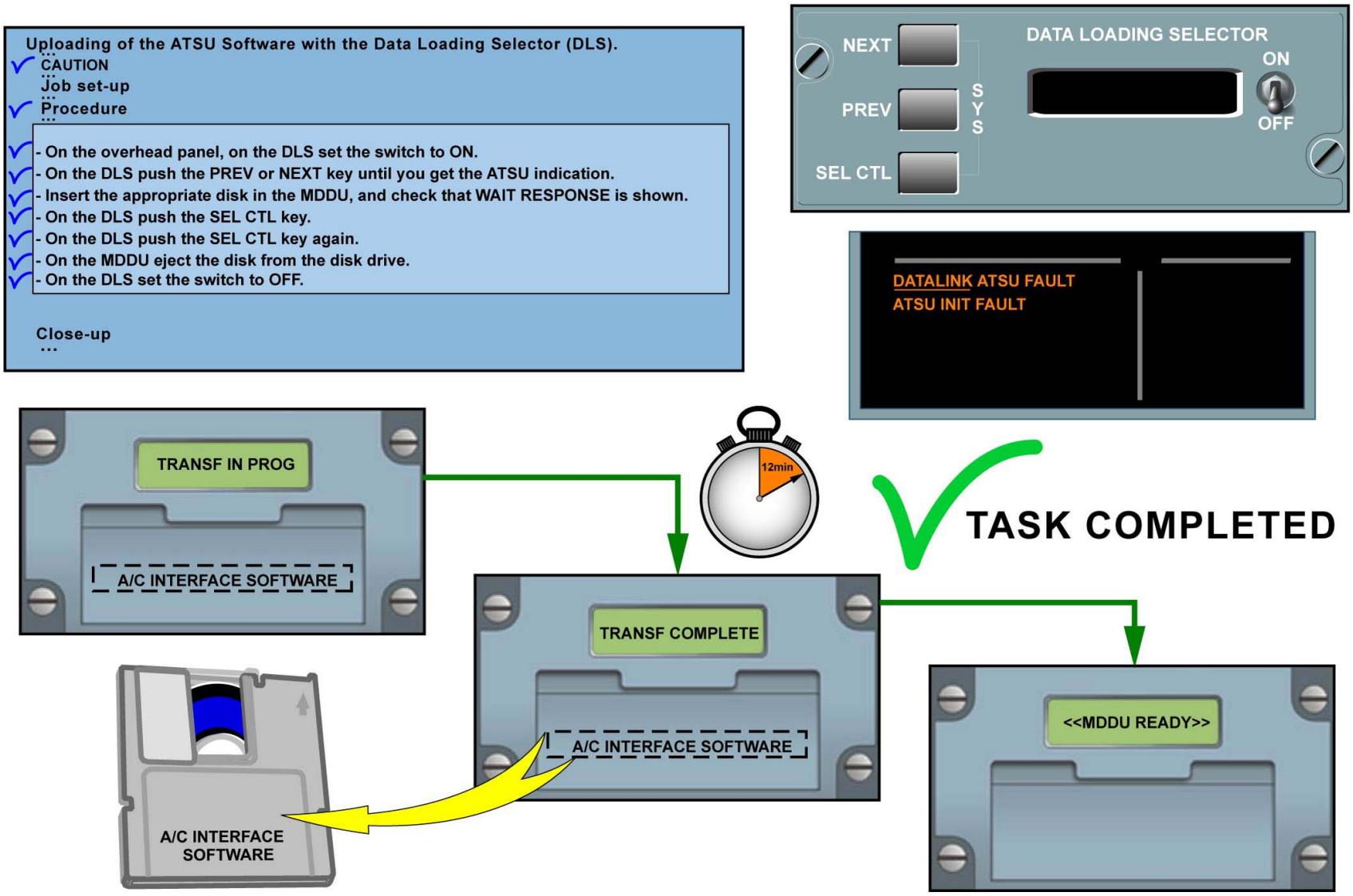
INFORMATION SYSTEMS BASE MAINTENANCE (3)

UPLOADING OF THE ATSU SOFTWARE PROCEDURES (continued)

UPLOADING TRANSFER OF THE ATSU SOFTWARE WITH THE DLS

Follow the procedure. ECAM generates a DATALINK ATSU FAULT and an ATSU INIT FAULT message during uploading. The ATSU is selected, start the data transfer through the MDDU, then monitor and change the disk if necessary. Perform a check of the transfer completion. Note: The ECAM messages remain in view until you perform the ATSU ROUTER initialization. Then validate the task. Follow the procedure to deselect the ATSU. Then validate the task. Follow the procedure to remove the disk. When transfer is complete, the MDDU displays the READY message. Then validate the task. Follow the procedure to activate the ATSU Power-On Self Test (POST), which will validate and make the uploaded software operational. The task is complete.

G9409341 - GAUT0T0 - FM46Y2BASEMCE02


Uploading of the ATSU Software with the Data Loading Selector (DLS).
CAUTION
Job set-up
Procedure
- On the overhead panel, on the DLS set the switch to ON.
- On the DLS push the PREV or NEXT key until you get the ATSU indication.
- Insert the appropriate disk in the MDDU, and check that WAIT RESPONSE is shown.
- On the DLS push the SEL CTL key.
- On the DLS push the SEL CTL key again.
- On the MDDU eject the disk from the disk drive.
- On the DLS set the switch to OFF.
Close-up
NEXT
PREV
SEL CTL
SYS
DATA LOADING SELECTOR
ON
OFF
DATALINK ATSU FAULT
ATSU INIT FAULT
TRANSF IN PROG
A/C INTERFACE SOFTWARE
12min
TASK COMPLETED
TRANSF COMPLETE
A/C INTERFACE SOFTWARE
<<MDDU READY>>
A/C INTERFACE SOFTWARE

UPLOADING OF THE ATSU SOFTWARE PROCEDURES - UPLOADING TRANSFER OF THE ATSU SOFTWARE WITH THE DLS

G9409341 - GAUT0T0 - FM46Y2BASEMCE02

INFORMATION SYSTEMS BASE MAINTENANCE (3)

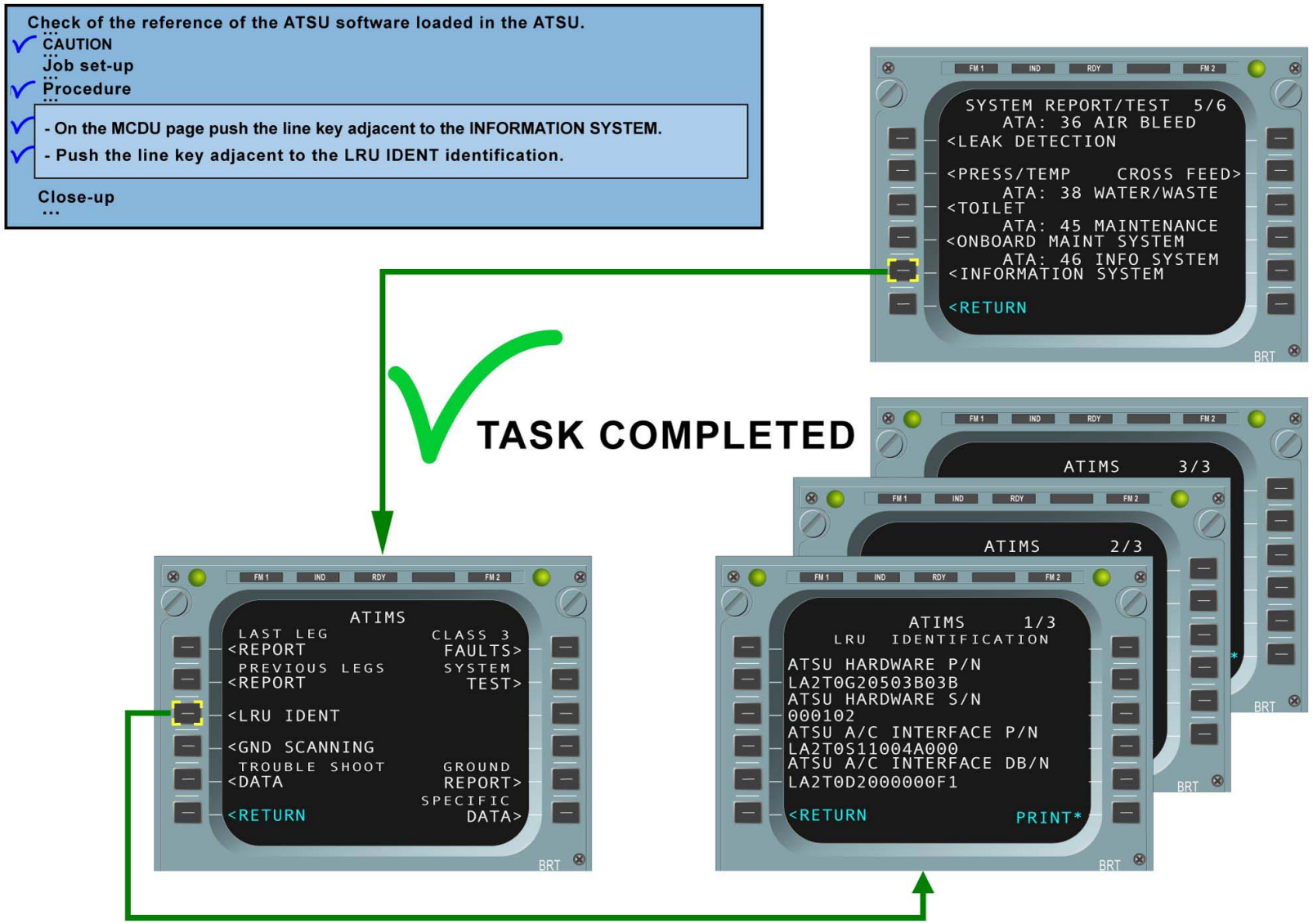
UPLOADING OF THE ATSU SOFTWARE PROCEDURES (continued)

CHECK OF THE REFERENCE OF THE ATSU SOFTWARE LOADED IN THE ATSU

The SYSTEM REPORT/TEST page allows, by pressing the INFORMATION SYSTEM key, access to the Air Traffic and Information Management System (ATIMS) page. Then validate the task.
Follow the procedure. Select the LRU IDENT key to display A/C INTERFACE software and FANS A application software references. Then, make sure that the P/N references displayed on the LRU IDENT page are the same as the P/N references read on the disk. The task is complete.

NOTE: Remember, wait till the end of the ATSU POST to make sure that the uploaded software is operational.

G9409341 - GAUT0T0 - FM46Y2BASEMCE02



UPLOADING OF THE ATSU SOFTWARE PROCEDURES - CHECK OF THE REFERENCE OF THE ATSU SOFTWARE LOADED IN THE ATSU

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INFORMATION SYSTEMS BASE MAINTENANCE (3)

UPLOADING OF THE ATSU SOFTWARE PROCEDURES (continued)

CHECK OF THE REFERENCE OF THE AOC SOFTWARE & DATABASE LOADED IN THE ATSU

After accessing the ATSU DATALINK from MCDU MENU, press the AOC MENU select key, to display the AOC PRE-FLIGHT MENU page. Then validate the task.
Follow the procedure. Press the MISC selection key, to access the AOC MISCellaneous page. Then validate the task.
Follow the procedure. Press the PART NUMBERS CONFIGURATION selection key to access the AOC MISCELLANEOUS page. Then, make sure that the AOC software and database P/N references displayed on the AOC CONFIGURATION page are the same as the P/N references read on the disk. The task is complete.

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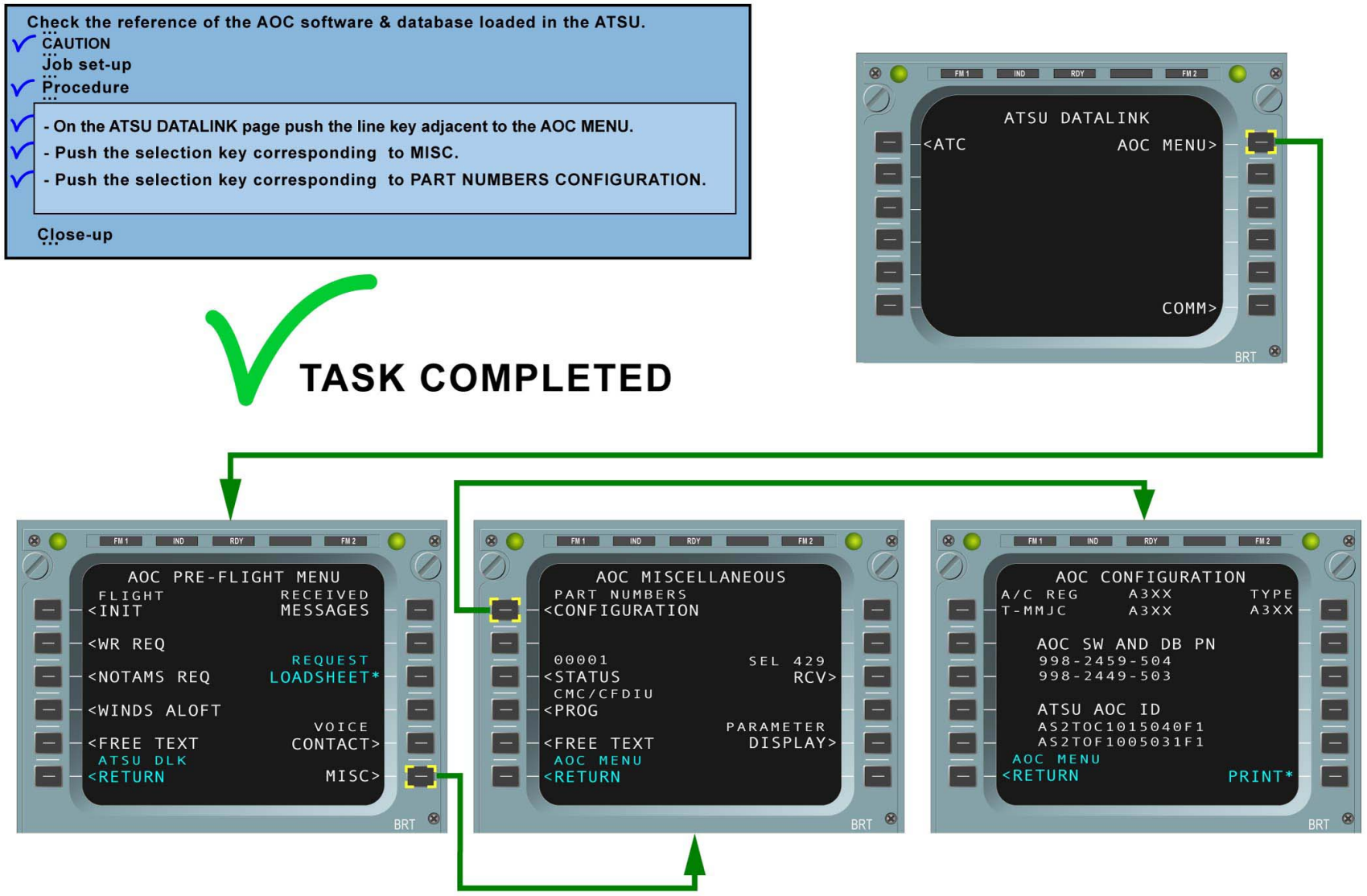

UPLOADING OF THE ATSU SOFTWARE PROCEDURES - CHECK OF THE REFERENCE OF THE AOC SOFTWARE & DATABASE LOADED IN THE ATSU

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